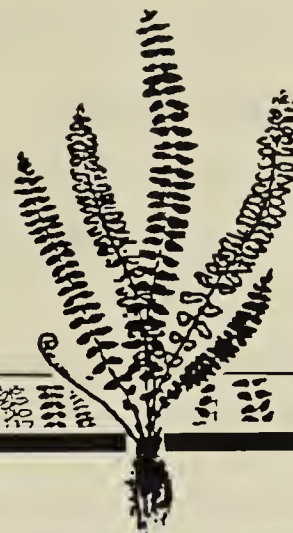


Hardy Fern Foundation NEWSLETTER

Editor Sue Olsen ■ VOLUME 7 NUMBER 4 ■ FALL 1997



President's Message

Anne Holt and Jocelyn Horder

The fall rains discouraged potential buyers at the Northwest Horticultural Society's fall sale, but not the sale of ferns at the Rhododendron Species Botanical Garden sale the preceeding week-end. The HFF profit was approximately \$800.00 and we profit as well by educating the public about the vast assortment of ferns suitable for garden use. We again thank Sue and Herman Entz for their time and effort in co-ordinating our sales booth.

Ferns are being distributed as well. After our September board meeting volunteers packed and shipped 124 ferns to members and 423 to our Satellite Gardens. Your board members also conducted an evaluation of the ferns planted in the Rhododendron Species Botanical Garden. We are happy to report that they are thriving. A full report will be published along with satellite reports next spring. Remember that your HFF membership entitles you to one free admission to the RSBG annually so be sure to stop and see your collection when you are in the area. We would like to encourage our members to evaluate their own gardens as well and send this information to our editor. We will begin publishing these reports with this issue. Thank you.

We were pleased to donate \$500.00 to Steve Hootman for his collecting trip to China and \$150.00 to Dan Hinkley for his collecting trip to Korea and Japan. We look forward to having new and different fern spores to grow when they return.

Plans are under way for the Northwest Flower Show where the HFF will again share display space with the Rhododendron Species Foundation. Board member Glen Youell has agreed to co-ordinate our efforts. She needs volunteers to help staff the booth. The show runs from Feb. 4 - 8. To volunteer call Mrs. Youell at 425 885-6387 or drop her a note at 3459 122nd Pl. N.E., Bellevue, WA 98005. In addition to helping the HFF, volunteers also receive free admission to this fantastic show.

We are in the process of compiling an e-mail directory of our membership. To be listed please send your e-mail address to Hffmembership@juno.com.

Because of the heavy rains here the slugs and snails are thriving. Do keep baiting for these hungry creatures. A spritz with a mixture of one part non sudsy ammonia to four parts water also does the trick.

Thanks

Your HFF board would like to thank the following members who have contributed above and beyond the basic membership dues:

Supporting:

Mrs. Charles Hyde
Contributing:
Kathleen Dennis
Mrs. Phil Duryee
Jocelyn Horder

Charles Lamade
Marshall Majors
Sue and Harry Olsen
Meredith Smith M.D.
Chris Spindel
Glen Youell

Endowment Fund:

Nancy Ballard
Frank Damgaard
Susan Eichhorn
Irving Knobloch
Martha Robbins

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Welcome New Members

Joe and Judy Caughlin
C. Layng
Lisa K. Ravenholt
Mrs. Wendy Hirschman
Susan M. Callan
John Henry Co.
Blanchard Reel
Linda Shaw
Joyce Wiechmann
Virginia Lusk

Exploring Private European Fern Gardens Summer 1997 - A Series

Sue Olsen, Bellevue, WA

A VISIT WITH PhDr. ZDENEK SEIBERT in TACHOV, CZECH REPUBLIC SEPT. 1997

Fern lovers who have grown ferns from spores contributed to various spore exchanges or for that matter alpine garden enthusiasts who have dipped into rock garden society seed exchanges will immediately recognize the name of frequent donor PhDr. Zdenek Seibert. This charismatic 86 year old gentleman has been donating spores and seeds to assorted exchanges for as long as I can remember. Much of his material would be new to cultivation at the time and American fern enthusiasts can thank PhDr. Seibert for such wonderful introductions as *Polystichum neolobatum*, *Dryopteris namegatae*, *Dryopteris bissetiana* and a long list of *Aspleniums* to name just a few. I've been corresponding with PhDr. Seibert for many years and have been delighted to be on the receiving end of his generosity with fern spores. I have always wanted to meet my distant penpal PhDr. Seibert and my husband and I decided that late summer 1997 would be an ideal time to visit the Czech Republic and PhDr. Seibert's garden in the city of Tachov. It was an exciting prospect for us all and turned out to be one of the highlights of our trip.

PhDr. Seibert who immediately asked to be addressed by his Christian name, Zdenek, gardens on a hillside overlooking the city. His life has spanned two world wars as well as 40 years of Communist rule all of which determined the course of his career but did not deter PhDr. Seibert's love of plants. The extent of his collection was immediately apparent upon entering the garden and I was overwhelmed especially as we were introduced to the many *Asplenium* species, and assorted subspecies and hybrids, particularly those of *A. trichomanes*. It was a tremendous learning experience and I hope that we can sort this information out in future newsletters. Part of his collection is a reflection on his long time association with the late Dr. Tadeus Reichstein, a Swiss Nobel Prize Recipient in physics, who in his later years devoted much of his time to the study of pteridology especially the

Aspleniums. Another colleague, Stefan Jessen of Chemnitz, Germany also is doing continuing research on the *Aspleniums*. Mr. Jessen has traveled and collected extensively in eastern Europe and Russia. He has shared much of this rare material with PhDr.

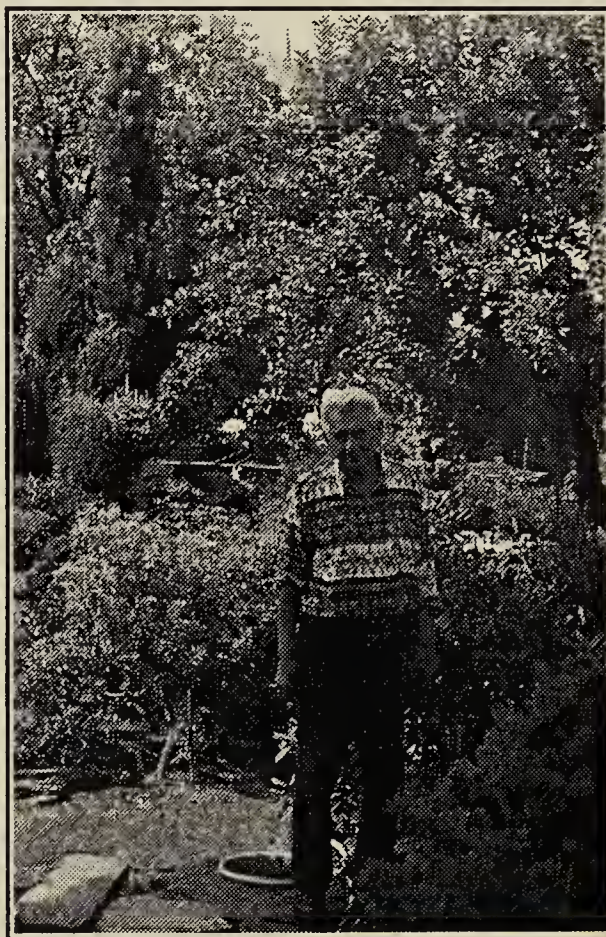
Seibert so his collection is comprehensive indeed.

Almost all of the approximately 1/3 acre garden is covered with plants many in pots. In addition to ferns and alpines PhDr. Seibert has large collections of rhododendrons, daphnes and conifers. There are also a number of structures for propagating. He sows his fern spores in a heated greenhouse. With the exception of the green spores (*Osmunda's* etc.), he sows in the fall or winter so that he can control the temperature. (Their summers are hot.) The temperature is maintained at 70°. As the young sporophytes develop they are hardened off and moved into another section of the greenhouse where the temperature never dips below 40°. Eventually they go into a lath house, a shade house, the garden and in many instances, the gardens of fellow fern lovers.

PhDr. Seibert is ably assisted by another fern enthusiast, Stanislava (Tanya) Hoskova. It was a pleasure to have her join us for our tour. Our lovely visit came to an end with Tanya serving us refreshments in the garden. By now two visiting German alpine enthusiasts had joined us. (They were as enthralled with PhDr. Seibert's alpines as we were with the ferns.) We were surrounded by a panoramic city view, beautiful plants and best of all good company.



Ferns in PhDr. Seibert's lath house. Photo by Harry Olsen.



PhDr. Seibert.

Photo by Harry Olsen.

A Reminder

Dr. Alan Smith of the University of California Berkeley will conduct a **two day workshop, January 10 & 11 on the Polypodiaceae.**

The class is limited to 20 participants on a first-come first-served basis. The charge is \$165. for non-members of the Friends of the Jepson Herbarium and \$150. for members. Registration should be sent to Friends of the Jepson Herbarium, 1001 Valley Life Sciences Building #2465, University of California, Berkeley, CA 94720-2465. For more complete information see the announcement in the summer 1997 newsletter.

PhDr. Zdenek Seibert's Biography

PhDr. Seibert writes:

"Dear Mrs. Olsen,

I feel very pleased, honoured and flattered by your asking me for a biography of my life.....If you insist on your wish to have my biography I enclose for this case some words about my life."

I was born on May 13, 1911 at Vizovice - a small Moravian town. I started my career as a teacher and after passing due exams I worked as a German teacher. When the second world war was over and the universities were open again, I studied philosophy and psychology at the Charles University in Prague and took the degree Doctor of Philosophy. As I wasn't allowed to teach or give lectures, I found my occupation in an organization of employees in the education system.

My interest in ferns arose step by step probably 50 years ago. I liked ferns such as Woodsias and Ceterach which were at that time very wanted and difficult to obtain in our country. A suggestion to try to raise ferns from spores led me to the book "Einzug der Gräser und Farne in die Gärten" (Entry of the Grasses and Ferns to the Gardens), written by Karl Foerster, Neumann Verlag, Radebeul 1, 1957. I put a little sterilized turf in a preserving jar, sowed spores of Ceterach officinarum and gave the closed jar a spot on a window ledge. After some days I wasn't able to believe my eyes. The surface was covered with green. By means of a magnifying glass I found out that the spores had germinated and developed to prothalli. After having moved from Prague to Tachov, I used different and rather all kinds of procedures and methods and raised ferns from spores in a heated greenhouse.

Raising ferns from spores is often an adventure. You sow one species and get many different species. Then it is a challenge to solve what kinds of ferns you have. It is often a difficult task which needs much patience and consulting with the literature. A fern journal is a great help.

Call for Papers

Dear Fellow Pteridologists,

As some of you know, I've been asked to organize a symposium on the Conservation Biology of Pteridophytes for the joint annual meeting of the American Fern Society and the Botanical Society of America, August 1998, in Baltimore, Maryland. I'm just now starting to put some thought into potential speakers and would greatly appreciate any thoughts you might have. Ideally, I would like to see a combination of topics including basic and applied research of rare and endangered pteridophytes, ecology, genetics, demography, systematics, habitat restoration etc. So, if you and/or any of your students are working on projects relating to conservation of pteridophytes, please let me know as soon as possible so that I can consider as much as possible in putting together a program. At this point I am NOT aware of the availability of any funds to help with travel expenses, but I will be checking into that.

Looking forward to hearing from you!

Tom Ranker

Curator of Botany & Associate Professor

University of Colorado Museum &

Department of EPO Biology

Campus Box 350

Boulder, CO 80309-0350

Phone 303-492-5074

Fax 303-492-8699

e-mail ranker@stripe.colorado.edu

Readers & Writers Alert

Your editor is always happy to receive articles and comments and I thank the many members who have contributed to our newsletter. Right now I'm looking for some very specific articles on two different subjects:

Propagation - how do you grow your ferns from spores? There are almost as many methods as there are propagators and I'd like to hear about yours.

Deer - are they a problem for you? Do you find some ferns more susceptible than others? Who are the good guys?

Thanks!

You may mail articles to me (preferably on a PC disk in Word 6) at 2003 128th Ave. S.E., Bellevue, WA 98005 or send them by e-mail to Foliageg@juno.com.

*Asplenium
rhizophyllum*



Field Trip Report: Southern Quebec

Joanne Sharpe--
Dresden, Maine

Two days of fern field trips in Canada's province of Quebec near Montreal left this participant totally impressed with the pteridological resources and puzzles of the area. The forays were sponsored by the American Fern Society and were held August 2-3, 1997 in association with the meetings of the American Institute of Biological Sciences (AIBS) at the Palais de Congres de Montreal.

We congregated in downtown Montreal on Saturday morning to board our bus with co-leaders Charles Mercier and Jacques Labrecque and were soon off to Mont St-Hilaire which is just west of Montreal. On the bus we were provided with a comprehensive description of Mont St-Hilaire which is a 1200-hectare property owned since 1958 by McGill University. There is a visitor center and facilities for researchers and because of its unique habitats and intact ecosystems, it has been designated a UNESCO Man & Biosphere Reserve. In managing the reserve, McGill has tried to balance visitor and researcher demands within a natural site so close to Montreal that suburban development has been gradually eliminating the buffers provided by more rural uses in the past.

Included within the Mont-Hilaire reserve is the dome-shaped mountain itself, flanked with various types of glacial deposits and small Lac Hertel--which has been divided down the middle into fishing and research uses. In this one 1200-hectare area it is possible to see over 50 species of ferns and fern allies, however because of time limitations our visit was limited to the area around the lake. By my count we saw at least 30 different species in this one area. Our leader for this part of the trip, Charles

Mercier, though a *Carex* researcher at Mont-Hilaire, had proven himself a pteridologist as well, finding localities for some of Quebec's rare ferns near his research sites. Along the lake edge we saw both the broad beech fern *Phegopteris hexagonoptera* and the narrow beech fern *Phegopteris connectilis*, a fern rare in Quebec. We learned that, in spite of its name, the lower pinnae pairs are NOT connected by leaf tissue along the rachis in the latter. A non-fertile population of the uncommon narrow-leaved glade fern *Diplazium pycnocarpon* occurred between the trail and the lake. A single sighting of the triangle moonwort *Botrychium lanceolatum* along the trail led to many more sightings as more eyes (and cameras) joined in the search.

Lake edge examination of several species of lycopods led to much discussion of the various new and old names in this group as well as their cloning habits identified as "guerilla" and "phalanx". In a particularly lush area at the end of the lake we were fortunate to see large populations of the rare (in Quebec) Giant wood-fern *Dryopteris goldiana*. The ground here was carpeted with the bulblet bladder fern *Cystopteris bulbifera* and the silvery glade fern *Deparia acrostichoides*. Large vigorous patches of the northern maidenhair *Adiantum pedatum* abounded as well, providing an excellent setting for photographs of the entire group.

Our next site was in the town of St. Armand-Ouest right on the Vermont border in the southwest corner of the Eastern Township region of Quebec. After parking in the driveway of a lovely farm in the valley, we were led uphill by Jacques Labrecque through mixed woods. On the scattered limestone outcrops we were rewarded with views of the walking fern *Asplenium rhizophyllum* cascading down the sides of a large rock face, with the ebony spleenwort *Asplenium platyneuron* and blunt-lobed cliff fern *Woodsia obtusa* tucked among the crevices. The latter is known from only two other sites in Quebec, all near the border. While the rest of us admired a spectacular view across a ravine to Vermont (and occasionally stepped across the remnants of a barbed wire fence that marks the border at this location), Jacques scrambled down a cliff face to bring us a sample of the extremely rare and tiny wall-rue *Asplenium ruta-muraria* he had recently discovered there only by accident. As

happens with *Botrychium*, we again spotted one specimen of the rattlesnake fern *Botrychium virginianum* only to find we had been walking through a large population. The darker green daisy-leaved moonwort *Botrychium matricariifolium* was not so common however.

Sunday morning saw a somewhat larger group assemble at the Palais des Congres for a trip to the serpentine areas of the Eastern Townships led by Geoffrey Hall. A long discontinuous ridge of serpentine trends southwest to northeast throughout this part of Quebec and is mined for asbestos. Serpentine is a beautiful green rock with large amounts of magnesium and iron. Its composition creates habitat for a suite of plants with very specialized requirements and it is also used for exquisite sculptures seen later in art galleries in Montreal.

The trail to our first serpentine site, overlooking Lac La Rouche, wandered through woodlands where the hay scented fern *Dennstaedtia punctilobula* and the evergreen wood fern *Dryopteris intermedia* were abundant. On the steep rock scree cascading down to the lake we saw several small populations of the western maidenhair *Adiantum aleuticum*. As suggested by its name *A. aleuticum* in its Canadian serpentine locations is disjunct from its western wooded ravine locations. This situation long ago resulted in the hypothesis that parts of the Gulf of St. Lawrence region were unglaciated during the Pleistocene (Paris 1991).

At our next site, Lac Brompton, we were presented with another interesting species of *Adiantum*, the Green Mountain maidenhair *Adiantum viridimontanum*. This species was only recently described (Paris 1991) and is found only on serpentine in north central Vermont and southern Quebec. The population of this regional endemic at Lac Brompton epitomized the term "locally abundant". It grew profusely throughout an area of disturbed serpentine, with various microhabitats ranging from sunny pavement-like scree to shaded woodland resulting in a wide range of growth habits. A small lakeside population of *Botrychium multifidum* provided lunchtime entertainment. A slightly more strenuous scramble after lunch led to one of the steep rock faces near Lac Brompton where the walking fern *Asplenium rhizophyllum* and the

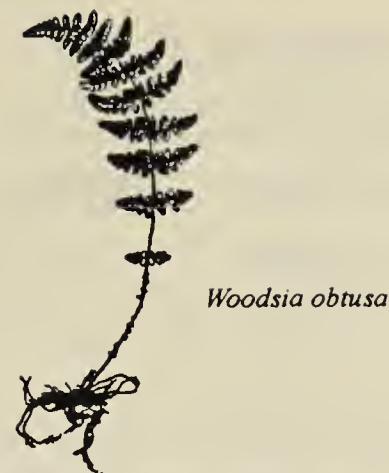
smooth cliff-brake *Pellaea glabella* were seen at their northernmost limit.

For more information and complete lists of the ferns seen on these field trips contact Charles Mercier, 12035 Ronald, Montreal-Nord, Quebec H1G 1V8 (mercier@magellan.umontreal.ca) or Jacques Labrecque, 877 Delage app 3, Saint-Foy, Quebec G1V 3X3 (cdpng@mef.gouv.qc.ca) or Geoffrey Hall, 529 rue Wellington Sud, Sherbrook, Quebec J1H 5E2 (ghall@interlinx.qc.ca).

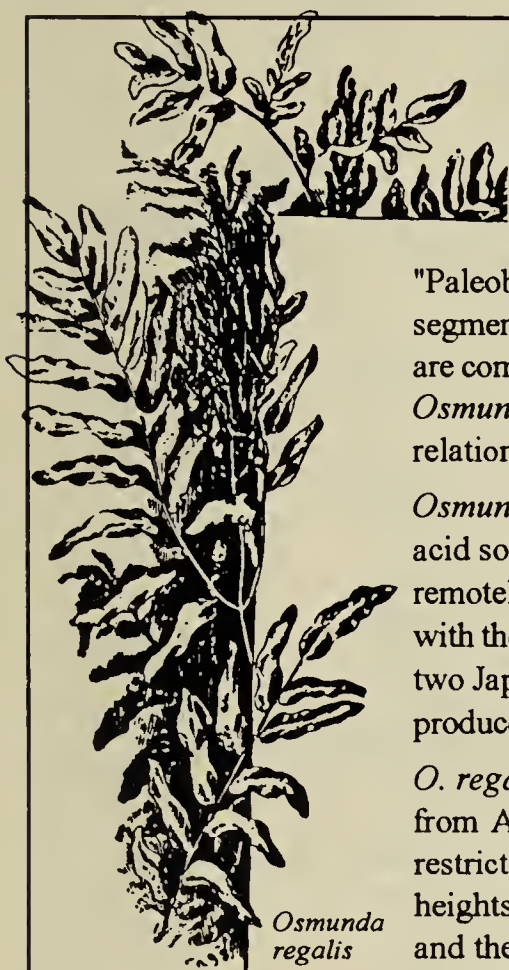
For information on Mont St.-Hilaire contact Martin J. Lechowicz, Dept. of Biology, McGill University, 1205 Avenue Dr. Penfield, Montreal, Quebec H3A 1B1 (Martin@BIO1.LAN.McGill.CA).

For a free comprehensive guide to the Eastern Township region of Canada - call 1-800-355-5755 or e-mail ate@multi-medias.ca.

Reference: Parris, Cathy A. 1991. *Adiantum viridimontanum*, a new maidenhair fern in eastern North America. *Rhodora* 93:105-122.



Woodsia obtusa



Osmunda regalis

Osmunda regalis - The Royal Fern

Jim Horrocks - Salt Lake City, UT

As noted in the HFF Newsletter Vol. 3 Number 4 - The Royal Fern Family, *Osmundaceae*, is a very ancient one, first appearing in late Paleozoic (Upper Permian) strata. Quoting from Thomas N. Taylor's "Paleobotany": "Most information about the fossil history of the family comes from structurally preserved stem segments, many of which have been reassigned to extant genera.Isolated osmundaceous sporangia and spores are common in Mesozoic rocks and are typically identical with extant forms.Although the fossil record of the *Osmundaceae* appears extensive, there are numerous gaps in our knowledge about the origin of the family and relationships among the taxa.

Osmunda regalis, also called the Flowering Fern, is a denizen of swamps and bogs growing mostly in strongly acid soil. It may occasionally be found at the edge of streams and lakes. The fronds are rather unique and only remotely resemble those of *O. cinnamomea* and *O. claytoniana*. In a garden collection, it is likely to be confused with the Japanese species *O. japonica* and may even be confused with *O. lancea*, also from Japan. However, the two Japanese species do not have the spore-bearing pinnae on the upper portion of the frond, as in *O. regalis*, but produce separate fertile fronds that are contracted their entire length.

O. regalis is native to North and South America, Europe, and Great Britain. Varieties of it have been described from Africa, India, and China. In North America it grows usually two to five or even six feet high and is restricted mainly east of the Mississippi river, being rather rare west of it. Specimens from Europe have attained heights of ten feet, the huge fronds being stouter and fleshier. Forms with purple stripes and rachises are known and there are varieties with crisped margins, crested segment tips, and in the case of *var. spectabilis*, the segments are thinner and more widely spaced. *O. regalis* has hybridized with *O. claytoniana* to produce *O. X ruggi*.

Description: The compact rootstock is thick and erect, the crown often twelve inches above the surface. The crown arises from a large circular mound of matted rootlets. The stipe is about 3/4 as long as the blade, in some forms glaucous green, but in others, a reddish color and glabrous. The fronds can be up to six feet in height, the color a pea green. The frond is divided into five to nine pairs of opposite pinnae, each bearing six or more pairs of well-spaced oblong pinnules with oblique bases and obtuse to acutish tips. The fronds have an open graceful look. The fertile fronds are like the sterile except that the pinnules of the top three or four pinnae are greatly contracted and made up of clusters of sporangia which are globular in shape and found on the margins of the pinnules. The sporangia split into two sections as the spores ripen. There is no indusium and the green spores remain viable for about 3 weeks.

Culture: This is a magnificent plant for waterside planting and in bog gardens where it will thrive in standing water. It has also been successfully grown in ordinary garden conditions as long as the soil is enriched with peatmoss and leafmold and kept slightly acid and damp. The fronds grow in clusters that are pyramidal in shape rather than vase-like. In the fall, the fronds have seasonal value as they take on a russet brown color. The Royal Fern spreads slowly and growth occurs in a circumferential manner forming a ring of separate plants all originating from the central specimen. For something really different in the fern bed or water garden, *O. regalis* is certainly worth trying. An impressive bit of "Royalty" is a welcome addition to any garden.

References: *The Fern Guide*, (1961) Edgar T. Wherry, Doubleday, New York *Field Book of Common Ferns*, (1949) Herbert Durand, G.P. Putnam's Sons, New York.

Ferns to Know and Grow (1971) F. Gordon Foster, Hawthorn Books, Inc., New York

Ferns for American Gardens (1994) John T. Mickel, MacMillan Publishing Co., New York

Pteridophytes at The Rockland Botanical Garden, Berks County, Pennsylvania

John Scott, Mestztown, PA

The Rockland Botanical Garden is the privately owned study garden of Mr. & Mrs. John D. Scott, 55 Hertzog School Road, Mertztown, Pa. 19539. The Garden was created in 1977 from four acres of old corn field and nine acres of lumbered woodland. Collections currently being developed include over 450 conifers, 157 hardy ferns, and a nine acre native woodland garden with approximately one mile of maintained trails.

The purpose of the Rockland Botanical Garden is to provide systematic and ecological plant collections for study by students in the field. An extensive fern library and an herbarium of the Garden's plants are being developed. Also under development is a computer file of fern literature and fern names.

The property was selected because of the many varied microhabitats. Four acres of old corn-field provide a sunny area for the conifer collection and an organized dicot collection. Artificial habitats include a limestone cobble and a serpentine barren. There is a small stream and a large spring fed bog. A nine acre woodland contains several hundred indigenous plants native to Berks County. Most notable plants include *Botrychium matricariifolium*, *Orchis spectabilis*, and *Habenaria lacera*.

The large list of indigenous pteridophytes was made during the first few years of surveying the woods. To that collection has been added native North American ferns. There is a small section of the woods devoted to Japanese wild-flowers and ferns. The ferns have been purchased mainly from Fancy Fronds, Foliage Gardens., Siskiyou Gardens, and Wildwood. While the hardiness map places the Garden in Zone 6, most of the purchased ferns listed as Zone 6 do not winter over or send up fronds in June and July. If the hardinesses of the ferns are correct, we have a microclimate of Zone 5.

All the plants listed below are currently growing at the Garden. Those marked "*" have been planted during the Spring of 1997.

Plants indigenous to the property (38)

Adiantum pedatum
Asplenium platyneuron
Athyrium angustum
A. angustum f. *elatus*
A. angustum f. *rubellum*
A. asplenioides
A. thelypteroides
Botrychium dissectum f. *dissectum*
B. dissectum f. *obliquum*
B. matricariifolium
B. simplex
B. virginianum
B. virginianum (blunt lobed form)
Cystopteris tenuis (C. *fragilis* v. *mackayii*)
Dennstaedtia punctilobula
Dryopteris carthusiana (D. *spinulosa*)
D. cristata
D. intermedia
D. marginalis
D. x boottii
D. x Slossonae
Equisetum arvense
Lycopodium digitatum (L. *flabelliforme*)
L. lucidulum
L. obscurum
L. obscurum f. *dendroideum*
Onoclea sensibilis
Osmunda cinnamomea
O. clatoniana
O. regalis v. *spectabilis*
Phegopteris hexagonoptera
Polypodium virginianum
Polystichum acrostichoides
P. acrostichoides f. *incisum*
Pteridium aquilinum v. *latiusculum*
Selaginella apoda
Thelypteris novaboracensis
T. palustris
Woodsia obtusa

Additional North American pteridophytes (48)

Adiantum pedatum (PA serpentine form)
 * *A. pedatum* ssp. *subpumilum*
 * *Asplenium trichomanes* 'Pachyrachis'
Athyrium asplenioides f. *subtripinnatum*
A. distentifolium
A. filix-femina (Oregon)
A. pycnocarpon
Blechnum spicant (Siskiyou Mts., hardy form)
Camptosorus rhizophyllus
 * *Cheilanthes lanosa*
Cystopteris bulbifera
C. protrusa

C. x tennesseensis
Dryopteris arguta
D. campyloptera
D. celsa
D. clintoniana
D. expansa
D. filix-mas (Canada)
D. goldiana
D. x atropalustris (*celsa* x *cristata*)
D. campyloptera x *marginalis*
D. celsa x *spinulosa*
D. clintoniana x *goldiana*
D. clintoniana x *marginalis*
D. x dowellii
D. intermedia x *marginalis*
D. x leedsii
D. ludoviciana
D. x neo-wherryi
 * *D. pseudofilix-mas*
D. x triploidea
D. x uliginosa
Equisetum hyemale
E. scirpoides
Gymnocarpium dryopteris
G. dryopteris plumosum
Lorinseria areolata
Matteuccia pensylvanica
Phegopteris connectilis
Polypodium glycyrrhiza
Polystichum acrostichoides (bifurcate)
Polystichum acrostichoides f. *crispum*
P. acrostichoides f. *multifidum*
P. braunii
P. x potteri (*P. acrostichoides* x *braunii*)
Thelypteris simulata
Woodsia oregana
Woodwardia virginica



Botrychium virginianum

Foreign ferns and cultivars (58)

* *Asplenium fontanum*
Asplenosorus x *crucibuli*
Arachniodes aristata variegata
A. simplicior v. *major*
A. standishii
Athyrium filix-femina (English cultivars)
 'Congestum grandiceps'
 'Cristatum'
 'Fieldii'
 'Frizelliae'
 'Minutissima'
A. niponicum (cultivars)
 'Ancient jade'
 'Barnes dwarf green form'
 'Barnes dwarf gray form'
 'Pictum'
 * 'Ursula's Red'
 'Wildwood La Pampa'
 'Wildwood Tapestry'

A. otophorum
 Blechnum penna-marina
 B. penna-marina (crested form)
 * Crytomium macrophyllum
 Cystopteris bulbifera 'crispa'
 Dryopteris affinis (D. pseudo-mas)
 * D. affinis (pseudo-mas) ssp. affinis
 * D. affinis ssp. affinis 'Cristata the King'
 D. affinis 'Crispa'
 * D. affinis ssp. cambrensis
 * D. affinis ssp. cambrensis v. paleaceo-crispa
 'Crispa Barnes'
 * D. x complexa 'Robust'
 D. cycadina (D. atrata)
 D. bissettiana
 D. championii
 D. x deweveri
 D. dilatata 'Lepidota cristata' (grandiceps)
 D. dilatata 'Recurvata'
 D. dilatata 'Stansfieldii'
 D. erythrosora
 D. erythrosora f. prolificum
 D. filix-mas (English cultivars)
 'Barnesii'
 'Cristata 'Martindale'
 'Pendans'
 (?)
 * cristata
 * D. formosana
 D. gymnosora
 * D. kuratae
 D. lacera
 D. nipponensis
 D. polylepis
 D. purpurella
 D. radeana
 * D. remota
 * D. sacrosancta
 * D. uniformis 'Cristata'
 D. wallichiana
 * Lygodium japonicum
 Osmunda japonica
 * O. regalis 'Crispa'
 * O. regalis 'Cristata'
 * O. regalis var. regalis 'Purpurascens'
 * Phyllitis scolopendrium
 Polysticum. makinoi
 * P. rigens
 P. tripterum
 Thelypteris decursive pinnata
 Woodsia manchurensis
 W. plumeriae
 W. polystichoides



1984 - A Year of Problems for Tree Ferns - Some General Observations

A. G. Sonter, Sonter's Fern Nurseries,
New South Wales, Australia

Our nursery has been producing the tree fern, *Sphaeropteris cooperi* (syn. *Cyathea cooperi*) from spores for more than ten years.

Quite suddenly in 1984, although the spores germinated as usual, the prothalli degenerated and production dropped to almost zero. The same phenomenon occurred simultaneously in nurseries in Perth and Sydney.

About the same time, enquiries began to flood in from tree fern growers around Australia whose production from spores had failed. Within a period of two months growers had contacted us from Darwin, Cairns, Brisbane, Adelaide, Melbourne, and a host of other areas all around Australia, all with the same story - their spore production had failed. Buyers informed us there was an Australia-wide shortage of tree ferns.

Over the next four months we increased our spore sowing tenfold and for the next three months I spent my time trying to solve the production problems.

The following things were tried:

1. Spores were collected from many remote areas around Australia from natural tree fern populations - from Bedford in Western Australia to Atherton in Queensland.
2. Spores were sterilized.
3. A wide range of sowing media were tried, including peat moss, sawdust, pine bark, perlite, vermiculite, and a range of combinations of these.
4. The pH was varied from 4.0 to 8.0.
5. The daylength was varied from 8 to 24 hours.
6. The humidity was varied.

7. A wide variety of fungicides were tried.

Results were no better - the crop still failed.

Numerous samples of prothalli were tested by laboratories around Australia who constantly diagnosed: "no diseases and no pests - it must be an environmental problem".

Suddenly at the end of 1984 most of the prothalli in our trials stopped degenerating and grew beautifully, irrespective of media, light, temperature, etc. The only failures were in the widest ranges of the trials.

It should be noted that prior to 1984 we were producing over 100,000 tree ferns a month from spores, covering a range of about thirty different cultivars, and there were no problems of degenerating prothalli.

By the end of March, 1985, after three months of successful production, most of our grower customers had cancelled their orders because their own production was now "doing nicely". This is being written in May 1985, and there are tree ferns everywhere.

Our nursery has produced many millions of ferns from spores and we have been very conscious that many cultivars can be destroyed by a single factor being out of line, at any time.

It is my considered opinion that the minute, delicate *Cyathea cooperi* spores which are responsive to the most minuscule of variations in the complex balance of environment, media, and nutrients have, during this period of 1984, been indicating to us in a very real way, a change in the earth's total environmental balance. We do not know what changed - perhaps radiation, atmospheric gases, or a host of factors, but we do know that something did happen, and the tree fern spores in their own way told us about it.

Incidentally, we have since sown more of each batch of spores collected around Australia in 1984 and they have all grown successfully, with only normal losses.

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Fern Ratings in Zone 6A

Dear Ms. Olsen:

I live in an area east of Louisville in zone 6a. We have occasional years where the minimum temperature is as low as -15 to -20F. However, our major problem with temperature comes with the sudden spring freezes after a period of warm weather has completely broken winter dormancy. We had one this year which damaged a considerable number of ferns including *Dryopteris marginalis*, *Osmunda* species and *Matteuccia struthiopteris* as well as Japanese maples all over town. Summer temperatures reach the middle upper eighties for average highs. We usually have several periods in the nineties with lows in the seventies at night with 100 percent humidity as well as periods of no Rainfall. All in all a challenging place to raise ferns.

The fern beds are generally on slopes shaded by large hardwood trees ie: oaks, hickory, ash, and maple. One bed is along a creek bank which sometimes runs full with run-off from rain. We had 13 inches of rain this spring in twenty four hours. It washed out some ferns completely as well as undercutting the crowns of others in various beds. I did not include those ferns in my rating as I believe that it was abnormal damage. For this reason the rating list does not contain some ferns in previous inventory lists.

A second creekside bed is on a bank covered with large pieces of crushed limestone rock to control erosion. I have established the 'lime-lovers' in this area. The main problem seems to be slugs or whatever that likes ferns in this situation.

Ralph C. Archer - Louisville, KY

| NAME | RATING | YEAR PLANTED |
|--|--------|--------------|
| <i>Adiantum pedatum</i> | 2 | 1996 |
| <i>Adiantum venustum</i> | 2 | 1996 |
| <i>Arachnoides simplicior</i> 'Variegata' | 2 | 1996 |
| <i>Asplenium platyneuron</i> | 3 | 1995 |
| <i>Athyrium angustum</i> forma <i>rubellum</i> | 4 | 1994 |
| <i>Athyrium asplenioides</i> | 4 | 1994 |
| <i>Athyrium filix-femina</i> 'Corymbiferum' | 4 | 1995 |
| <i>Athyrium niponicum</i> 'Pictum' | 5 | 1990 |
| <i>Athyrium otophorum</i> | 4 | 1995 |
| <i>Camptosorum rhizophyllum</i> | 3 | 1995 |
| <i>Cheilanthes argentea</i> | 0 | 1996 |
| <i>Cystopteris bulbifera</i> | 5 | 1995 |
| <i>Dennstaedtia punctilobula</i> | 3 | 1993 |
| <i>Dryopteris affinis</i> 'Crispa Gracilis' | 3 | 1996 |
| <i>Dryopteris affinis</i> morph <i>affinis</i> | 3 | 1996 |
| <i>Dryopteris affinis</i> 'Cristata the King' | 3 | 1996 |
| <i>Dryopteris affinis</i> 'Crispa' | 4 | 1995 |
| <i>Dryopteris bissetiana</i> | 4 | 1995 |
| <i>Dryopteris carthusiana</i> | 3 | 1995 |
| <i>Dryopteris complexa</i> | 4 | 1995 |
| <i>Dryopteris cristata</i> | 4 | 1995 |
| <i>Dryopteris dilatata</i> 'Jimmy Dyce' | 2 | 1995 |
| <i>Dryopteris dilatata</i> 'Lepidota Cristata' | 2 | 1995 |
| <i>Dryopteris erythrosora</i> | 3 | 1994 |
| <i>Dryopteris filix-mas</i> | 3 | 1995 |
| <i>Dryopteris filix-mas</i> 'Crispa Cristata' | 3 | 1994 |
| <i>Dryopteris filix-mas</i> 'Cristata Jackson' | 4 | 1995 |
| <i>Dryopteris filix-mas</i> 'Grandiceps' | 4 | 1995 |
| <i>Dryopteris filix-mas</i> 'Linearis Polydactyla' | 4 | 1995 |
| <i>Dryopteris intermedia</i> | 3 | 1995 |
| <i>Dryopteris marginalis</i> | 3 | 1994 |
| <i>Dryopteris nipponensis</i> | 2 | 1995 |
| <i>Dryopteris remota</i> | 5 | 1995 |
| <i>Dryopteris submontana</i> | 3 | 1996 |
| <i>Dryopteris uniformis</i> | 3 | 1995 |
| <i>Matteuccia struthiopteris</i> | 5 | 1990 |
| <i>Onoclea sensibilis</i> | 5 | 1996 |
| <i>Osmunda cinnamomea</i> | 5 | 1993 |
| <i>Phyllitis scolopendrium</i> | 3 | 1996 |
| <i>Phyllitis scolopendrium</i> 'Kaye's lacerate' | 0 | 1996 |
| <i>Polystichum acrostichoides</i> | 5 | 1990 |
| <i>Polystichum lonchitis</i> | 0 | 1995 |
| <i>Polystichum makinoi</i> | 3 | 1995 |
| <i>Polystichum polyblepharum</i> | 2 | 1995 |
| <i>Polystichum tsus-simense</i> | 3 | 1996 |



Onoclea sensibilis

The Hardy Fern Foundation

NEWSLETTER

The Hardy Fern Foundation Newsletter is published quarterly by the Hardy Fern Foundation, P.O. Box 166, Medina, WA 98039-0166.

Articles, photos, fern and gardening questions, letters to the editor, and other contributions are welcomed!

Please send your submissions to
Sue Olsen, 2003 128th Ave SE,
Bellevue, WA, 98005.

Newsletter:

Editor: Sue Olsen
Assistants: Janet Dalby, Sylvia Duryee,
Sue & Herman Entz
Graphics: Karie Hess

The 1997 HFF Spore Exchange

It is finally that time of year when we can get back to growing the plants that we all love so much. There are again fewer ferns listed and many are getting a little old. We need a big revival of spore donations if we are going to keep this exchange as vibrant as it has been in the past. I have no magic source of spores, all of the spores come from members such as yourself. So let's get out there in the woods or your local HFF satellite garden, or conservatory and ship them out to your fellow ferners post haste!!!

There were 6 donors last year, less then 10% of the members, we can do better. The people listed below made the special effort and sent in spores. They all deserve a thank you from the rest of us, they are listed in random order.

Sylvia Duryee, Iris Gaddis, Keith Rogers, Wendy Born, Jocelyn Horder, Sue Olsen

To Order: Please print your selections clearly in **alphabetical** order (not by number, please) order using the genus, species, and cultivar. Include 25 cents for each fern requested (check payable to the Hardy Fern Foundation) and a **self-addressed stamped envelope**. No charge for overseas members, but please enclose an international postal coupon (2 for larger orders) and an envelope. Maximum order 25 per year. Mail requests to:

Wayne "Bubba" Baxter
307 Riverdale Cir.
Stephenson, Va. 22656
USA
Email fernbubb@visuallink.com

The descriptive columns are **Pk** packets available, **Z** the coldest zone this fern has been reported to have grown in, **SZE** in inches, **GROWth** habits listed below, **CollSite** if collected in the wild, **Orig** their natural range, **Donor** Listed by the most recent year the spore was donated followed by the donors number.

| | | |
|------------------------------|-----------------|---------------|
| 1 Rare fern | N Moist soil | B Tree fern |
| 2 New Fern | S Shade | G Spdgr habit |
| 3 Few spores | T Part Sun | K Terrestrial |
| \$ GreenSpore | U Bright Sun | F Aquatic |
| \$\$\$ GreenSpore with Donor | H High Humidity | V Deciduous |
| A Alkaline | L Soil Specific | O Evergreen |
| Z Acid soil | R Rocky Soil | Y Dimorphic |
| D Dry Soil | C Climber | E Easy 2 grow |
| W Wet soil | J Epiphytic | Q Hard 2 grow |

PS This note is for everyone that has not donated spores, donors please ignore this. The rest of us need to consider that there is no endless source of spores that I can tap into. All of the spores come from members like you. If there are not enough donations then the quality of the whole exchange is affected. Please take time during the next year (it isn't really that much time, I have done it many times myself) to focus on the ferns in your area or country and get them on the exchange. There are ferns that are indigenous to everyone's area (get a fern book out and have a look) that other members can't get otherwise. Many of the spores on the list are old or few in number, even common ferns need fresh spores or their viability plummets. The Hardy Fern Foundation Spore Exchange is a unique institution and with your help it will continue to be the best in the world. Thank you for your help.

| DNR | FIRST | LAST | DNR | FIRST | LAST |
|-----|---------------|-------------|-----|--------------|--------------|
| 1 | Brian | Aldine | 98 | Judith | Sullivan |
| 2 | Wayne | Baxter | 97 | John | Thompson |
| 4 | Wendy | Born | 99 | Christian | Wingard |
| 5 | Mrs Alice J. | Burkman | 99 | Dr Bruce | Young |
| 6 | Anna Marie | Davis | 100 | Maria | Beard |
| 7 | Sylvia & Phil | Duryee | 101 | Margaret | Nimmo-Smith |
| 8 | Leslie | Duhie | 102 | E. MD | Hirsch |
| 9 | Patrick | Dwyer | 103 | Richard | Pitt |
| 10 | Sue | Entz | 105 | Ervin J. | Leuchland |
| 11 | Iris | Gaddis | 106 | Berry | White |
| 12 | William | Gesener | 107 | Beverly | Edney |
| 13 | Chris | Goudy | 108 | Catherine | Quiles |
| 14 | Eldred | Green | 109 | Phyllis P. | Bates |
| 15 | Greg | Haines | 110 | Linda and | Halley San |
| 16 | Neil | Hall | 111 | | HFF |
| 17 | Marguerite | Henderson | 112 | | AFS/NYBG |
| 18 | Kenneth | Horder | 113 | Neud | Burnett |
| 19 | Leslie | Hartfield | 114 | J. C. | Purlier |
| 20 | Jocelyn | Horder | 115 | Ortchen | Gould |
| 21 | JR | Horrocks | 116 | Rufina | Oprio |
| 22 | Barbara Joe | Hoshizaki | 117 | Dr. Donald | Farrar |
| 23 | Guy | Huntley | 118 | Charrin | Thout |
| 25 | Judith | Jones | 119 | Elna C. | Link |
| 26 | Harold Dr. | Kesner | 120 | Dr Al | Dirksen |
| 27 | Dr. Irving | Knobloch | 122 | Mrs Hiroko | Sasaghi |
| 28 | Margen | Kruebers | 123 | Betsy | Feuerstein |
| 29 | Robert W. | Lake | 124 | Michael | Garnett |
| 30 | Donald | Leslie | 125 | | HFF Lakewood |
| 31 | Stuart | Lindsay | 126 | Jason | New |
| 32 | Lynn | Makela | 127 | Ted | Evera |
| 33 | John & Margot | Maschelli | 128 | James A. | Rollins |
| 34 | Dr. John T. | Michal | 129 | MICHAEL | HEIM |
| 35 | Mary | Muller | 130 | Lloyd & Vera | Barton |
| 36 | Sue | Olsen | 131 | Robert | Muller |
| 37 | Barbara S. | Parke | 134 | Sandra | Constantino |
| 38 | Karla M. | Peltus | 135 | Wim | Tavernier |
| 39 | Ken | Pfeiffer | 136 | D.J. | Batten |
| 40 | John & Grace | Putnam | 138 | Cynthia | Ferden |
| 41 | Martin | Richard | 139 | Jack | Schisler |
| 42 | Jim | Rush | 140 | Alan | Smith |
| 43 | Prof. | Selti | 142 | Jesse | Perry |
| 44 | Kevin W. | Sanfey | 143 | Wally | Reed Jr |
| 45 | PhDr. Zdenek | Selbert | 144 | Jean | Lundberg |
| 46 | John & Irma | Sho | 146 | sue | mandeville |
| 49 | William | Thompson | 147 | Dr. Howard | Hinde |
| 50 | Fred & | Timm | 148 | Mary Ellen | Towning |
| 52 | Samuel | Turney | 149 | Judy | Quattrech |
| 53 | Dr. T.W. | Turney | 150 | Jens Henrik | Nielsen |
| 54 | Dr. Cor | Van de | 151 | Marlene | Fairbourne |
| 55 | Mrs. Sandra | Vandermast | 152 | Moore | Huse |
| 56 | Suzette | Vicentin | 153 | Owen | Hammerberg |
| 57 | Les | Vulcz | 155 | Brian E. | Neah |
| 58 | Bruce | Wakeman | 156 | Peggy | McOill |
| 59 | Elmo | Weeks | 157 | Stephen J. | Coopins |
| 60 | Reginald | Kane | 158 | Claire | Minne |
| 61 | Jaroslav | Cuba | 159 | Nancy | Sherlock |
| 62 | John | Adkins | 160 | Stanislava | Hoskova |
| 63 | Don | Agostinelli | 161 | Dan | Bager |
| 64 | Diane & Ken | Atterbury | 162 | Daniel | Yeneure |
| 65 | Roger | Boyles | 163 | Ann | Hartington |
| 66 | Dorothy | Byer | 164 | Joost | Nekkampe |
| 67 | Edmund | Cave | 165 | Harold | Frank |
| 68 | Ellen | Claude | 166 | Ivan | Shulster |
| 69 | Michael | Concannon | 167 | Leanne | Parsons |
| 70 | Lothar | Denkewitz | 168 | Gerald | Krenz |
| 71 | Don & Joyce | Crits | 169 | Lyle | Winkal |
| 72 | Joachim | Ehlers | 170 | Frank | Damgaard |
| 73 | John | Gerns | 171 | Mich | Day |
| 74 | Robert | Gernin | 172 | Frank | Pepi |
| 76 | John | Kuiper | 173 | Peter | Podense |
| 78 | Jean | Graber | 174 | Carolyn | Stamm |
| 77 | Leura | Gueth | 175 | Fran | |
| 78 | Edward | Hallman | 176 | Joan | Gottlieb |
| 80 | David | Hughes | 177 | Shane | Berry |
| 81 | Yoshio | Kato | 178 | Fran | Rice |
| 82 | Shuzo | Kawabata | 179 | Janet | Yang |
| 83 | John | Knouse | 180 | Don | Lueth |
| 84 | Hayma Mrs | Kuhns | 181 | Roger | Hughes |
| 85 | Dorothy | Lamb | 182 | Angele | Randall |
| 86 | Dr. David B. | Lettinger | 183 | Dr. James | McClements |
| 87 | John and | Merley | 184 | Aaron | Edwards |
| 88 | Hiroki | Miyazaki | 185 | Prof P. | Berthet |
| 89 | Ferns | Mocetti | 186 | Fabien | Alvarez |
| 90 | Crain | Sault | 187 | Jean | Leecouf |
| 91 | Dr. Elizabeth | Sheffield | 188 | Clive | Jerry |
| 93 | Frank Mrs | Stout | 189 | | Anonymous |
| 94 | Val | Sorley | 190 | Norman | Ruckin |
| 95 | Dr. David | Straney | 191 | Susan | McQueen |
| | | | DNR | FIRST | LAST |
| | | | 192 | Ben | van Wierst |
| | | | 193 | Douglas | Diamond |
| | | | 194 | Robert | Halley |
| | | | 195 | Dave | Abbott |
| | | | 196 | Keith | Rogers |
| | | | 197 | H. John | Barnes |
| | | | 198 | Tim | Kesselnick |
| | | | 199 | Michael | Richards |

| HFT | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|-----------------|---------------------|--------------------------|----|---|------|--------|-----------|-------------------------|-----------------|
| 1 | Adiantum | aethiopicum | | 6 | 7 | 32 | 2TWGE | | NzAusAfr | 97/7 |
| 2 | Adiantum | aleuticum | | 25 | 4 | 12 | TKGELN | | PacNW Jap | 96/10 94/97 |
| 3 | Adiantum | aleuticum | serpentine ecotype | 10 | 2 | 12 | GJTELN | | alaska.nw usa | 92/25 |
| 4 | Adiantum | aleuticum | subpumilum | 2 | 3 | 12 | 1ZSNEG | | NW N.hem | 96/20 95/36 |
| 5 | Adiantum | diaphanum | | 5 | 8 | 10 | 3EWSHZ | | Aust.NZd. Fiji. Norfolk | 96/1 94/9 |
| 6 | Adiantum | hispidulum | | 15 | 8 | 14 | SNTEZH | | AusEHemTrop | 97/181 |
| 7 | Adiantum | pedatum | | 25 | 2 | 20 | ENSZK | | US Jap | 97/173 96/18 |
| 8 | Adiantum | Pedatum | Miss Sharples | 2 | 3 | | 2NSZ | | US | 96/173 |
| 9 | Arachniodes | anata | variegata | 20 | 6 | 36 | SZND | | Easia, Aust. | 96/10.156 |
| 10 | Arachniodes | miqueliana | | 2 | 5 | 24 | GK | | Easia | 95/12 92/43 |
| 11 | Arachniodes | simplicior | | 15 | 6 | 30 | EKTZM | | Easia | 97/181 |
| 12 | Arachniodes | simplicior | variegata | 10 | 7 | 30 | SNEM | | Easia | 97/182 96/146 |
| 13 | Arachniodes | standishii | | 10 | 6 | 18 | TNKM | | JpKor | 96/157 95/70 |
| 14 | Arthroptens | Orientalis | | 5 | 8 | 18 | ZSJW | | Afr | 94/149 |
| 15 | Aspidium | aculeatum | | 2 | 6 | | | | NEur | 94/9 |
| 16 | Asplenium | adiantum-nigrum | adiantum-nigrum | 50 | 6 | 14 | RANT | | Eur.NA.Af | 97/7.193 96/45 |
| 17 | Asplenium | adiantum-nigrum | Silesiacum | 1 | 6 | 14 | RANT | | Eur | 96/45 |
| 18 | Asplenium | billotii | | 1 | 5 | 10 | QZTK | | Eur | 95/10 94/9 |
| 19 | Asplenium | cuneifolium | | 16 | 6 | | R | | Eur | 94/45 |
| 20 | Asplenium | Dahlhousia | | 1 | 7 | 10 | 1RK | | AzoresHimalav | |
| 21 | Asplenium | flaccidum | terestre | 3 | 8 | 30 | NTK | | Aus | 96/164 94/110 |
| 22 | Asplenium | fontanum | | 4 | 5 | 5 | ZNRSG | | Eur | 96/45 94/9.97 |
| 23 | Asplenium | fonsiense | | 4 | 8 | 6 | ATRN | | Eur | 95/135 94/9 |
| 24 | Asplenium | Lunulatum | | 1 | 8 | 18 | SH | | S.Af | 95/53 |
| 25 | Asplenium | Milnei | | 5 | 8 | 32 | 12ESN | | AusLrdHowelsl | 97/196 |
| 26 | Asplenium | monanthes | | 1 | 7 | 12 | 1RTNZ | | S.US.SAmAFWIndies | 97/7 |
| 27 | Asplenium | Nesii | | 2 | 8 | 8 | 12K | | Tien-Shan | 96/45 |
| 28 | Asplenium | nidus | | 20 | 8 | 60 | HZNTJK | | N.Guin.iap.ryukvu Is. | 95/9.166 94/11 |
| 29 | Asplenium | nidus | Avis | 5 | 8 | 60 | 2HZNTJ | | N.Guin.iap.ryukvu Is. | 96/158 |
| 30 | Asplenium | obliquum | | 5 | 8 | 48 | KATNH | | NZ | 92/116 |
| 31 | Asplenium | oblongifolium | | 18 | 8 | 48 | SNK | | Nz | 97/11.196 95/9 |
| 32 | Asplenium | obovatum | lanceolatum | 10 | 7 | 6 | ATNH | | Eur | 95/9 94/154 |
| 33 | Asplenium | onopteris | | 3 | 6 | 8 | 1RZKNT | | Eur | 96/45.185 95/9 |
| 34 | Asplenium | pinnatifidum | | 3 | 5 | 5 | ZNSK | | E USA | 97/193.83 |
| 35 | Asplenium | platyneuron | | 15 | 4 | 18 | DAENT | | E USA | 97/173 96/8 |
| 36 | Asplenium | Praenoides | | 5 | 8 | 24 | 2NSE | | Aus | 97/196 |
| 37 | Asplenium | rhizophyllum | large form | 10 | 4 | 12 | ANTKO | | NAm | 96/173 |
| 38 | Asplenium | ruta-murana | | 10 | 4 | 5 | QANU | | N. Hem | 96/45 95/9.150 |
| 39 | Asplenium | Scleroprium | | 6 | 6 | | KSNE | | NZ | 97/196 |
| 40 | Asplenium | scolopendrium | | 8 | 6 | 12 | ANSKO | | NHem | 94/150.152.97 |
| 41 | Asplenium | scolopendrium | Americanum | 20 | 6 | 12 | ANSKO | | NHem | 97/173 |
| 42 | Asplenium | scolopendrium | AmericanumForkedFronds | 20 | 6 | 12 | 2ANSKO | | NHem | 96/173 |
| 43 | Asplenium | Scolopendrium | Supra marginatum | 5 | 6 | 12 | ANSKO | | NHem | 97/155 |
| 44 | Asplenium | scolopendrium | Undulatum | 4 | 6 | 12 | 2ANSKO | | NHem | 97/173 |
| 45 | Asplenium | septentrionale | | 4 | 4 | 6 | 1QZDTK | | NHem | 96/45 |
| 46 | Asplenium | septentrionale | septentrionale | 3 | 4 | 5 | 1QZDT | | N. HEM | 95/9.2 |
| 47 | Asplenium | trichomanes | | 10 | 2 | 9 | ANTKOE | | Cosmo | 96/164.173 |
| 48 | Asplenium | Trichomanes | Hastatum | 3 | 2 | 9 | 1ANTE | | Switz | 96/45 |
| 49 | Asplenium | trichomanes | Incisum | 6 | 2 | 9 | ANTE | | Eur | 96/45.158 94/36 |
| 50 | Asplenium | trichomanes | Lovisianum | 2 | 2 | 9 | 2ANTKO | | Switz | 96/45 |
| 51 | Asplenium | trichomanes | lucanum | 9 | 2 | 9 | ANTE | | Austria | 96/45 |
| 52 | Asplenium | trichomanes | maderense | 3 | 2 | 9 | ANTE | | | |
| 53 | Asplenium | trichomanes | Metzeranum | 3 | 2 | 9 | ANTE | | Austria | 96/45 |
| 54 | Asplenium | trichomanes | Moravicum | 1 | 2 | 9 | | | Moravian | 96/45 |
| 55 | Asplenium | trichomanes | Pachyrachis | 4 | 2 | 9 | 1ANTE | | Czech | 96/45 |
| 56 | Asplenium | trichomanes | quadrivalens | 10 | 2 | 9 | ANTE | | Eur | 96/45 95/9 |
| 57 | Asplenium | trichomanes | trichomanes | 3 | 2 | 9 | ANTE | | Eur | 95/61 94/45 |
| 58 | Asplenium | x lusaticum | | 2 | 5 | 9 | 13 | | Germ | 96/45 |
| 59 | Asplenium | xposcharskyanum | | 3 | 5 | | | | Germ | 94/45 |
| 60 | Asplenoceterach | x Badense | | 1 | 8 | | | | Eur | 95/61 |
| 61 | Asplenosorus | x ebenoides | | 5 | 7 | 12 | 1ANRK | | NAm | 96/36.153.173 |
| 62 | Astrolepsis | sinuata | | 5 | 6 | 10 | AUDK | | TexMex | 95/11 |
| 63 | Athyrium | asplenoides | | 2 | 3 | 48 | EKNZS | | SE USA | 94/9 93/9 92/9 |
| 64 | Athyrium | deltoidofrons | | 1 | 6 | 24 | TK | | Jap.Ch.Kor | 96/45 92/88 |
| 65 | Athyrium | distentifolium | | 8 | 3 | 24 | RTVKN | | far N Hem | 95/12.8 |
| 66 | Athyrium | filix-femina | | 40 | 3 | 48 | ZNTKEV | | N. HEM | 97/181.108 |
| 67 | Athyrium | filix-femina | Anqustum | 5 | 3 | 48 | ZNTKEV | | N. HEM | 96/129 |
| 68 | Athyrium | filix-femina | Asplenioides | 1 | 3 | 48 | ZNTKEV | | N. HEM | 95/9 |
| 69 | Athyrium | filix-femina | Bornholmense | 1 | 3 | 48 | ZNTKEV | | NEur | |
| 70 | Athyrium | filix-femina | Corymbiferum | 2 | 3 | 48 | 3ZNTKO | | N. HEM | 96/174 94/45 |
| 71 | Athyrium | filix-femina | cnstatum | 15 | 3 | 48 | ZNTKEV | | N. HEM | 96/174 95/141 |
| 72 | Athyrium | filix-femina | cnstulatum | 15 | 3 | 48 | ZNTKEV | | N. HEM | 96/174 95/141 |
| 73 | Athyrium | filix-femina | Cruciato-cnstatum | 5 | 3 | 48 | ZNTKEV | | N. HEM | 96 |
| 74 | Athyrium | filix-femina | CurtumCristata | 4 | 3 | 48 | ZNTKOV | | N. HEM | 96/45 |
| 75 | Athyrium | filix-femina | Frizelliae | 4 | 3 | 48 | ZNTKEV | | N. HEM | 96/173 95/2 |
| 76 | Athyrium | filix-femina | Grandiceps | 2 | 3 | 48 | 2ZNTKE | | N. HEM | 96/173 |
| 77 | Athyrium | filix-femina | Minutissimum | 20 | 3 | 48 | ZNTKOV | | NUSA | 96/174.173 95/2 |
| 78 | Athyrium | Filix-femina | multifidum | 3 | 3 | 48 | ZNTKOV | | N.Hem | 94/141 |
| 79 | Athyrium | Filix-femina | Polydactylus Darley Dale | 1 | 4 | 48 | ZNTKOV | | NHem | 94/45 |
| 80 | Athyrium | filix-femina | redstipes | 8 | 3 | 48 | ZNTKEV | | N. HEM | 96/52 93/12 |
| 81 | Athyrium | filix-femina | rubellum | 8 | 3 | 48 | ZNTKEV | | N. HEM | 97/181 95/156 |
| 82 | Athyrium | Filix-femina | Rubripes | 8 | 3 | 60 | ZNTKOV | | | 94/148 |
| 83 | Athyrium | filix-femina | Sitchense | 1 | 3 | 48 | ZNTKEV | | USA | |
| 84 | Athyrium | filix-femina | Vernoniae cristata | 20 | 3 | 36 | ZNTKEV | | N. HEM | 96/174.182 |
| 85 | Athyrium | filix-femina | Victoriae | 5 | 3 | 48 | ZNTKEO | | N. HEM | 97/156 96/10 |
| 86 | Athyrium | Goerangianum Pictum | Samarai Swords | 5 | 5 | 24 | 2E | | Easia | 97/173 |
| 87 | Athyrium | niponicum | | 1 | 4 | 18 | ZNTV | | Easia | 96/181 94/9 |
| 88 | Athyrium | niponicum | Metallicum | 3 | 4 | 18 | EZNTV | | Easia | |
| 89 | Athyrium | niponicum | Pictum | 60 | 3 | 18 | ZNTVE | | Easia | 97/181 |
| 90 | Athyrium | niponicum | Pictum Tall type | 8 | 3 | 24 | ZNTVE | | Easia | 96/182 |

| HFF | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|-------------------|--------------------|-----------------|----|---|------|---------|-----------|--------------------|------------------|
| 91 | Athyrium | Obovatum | | 2 | 5 | | | | | 96/173 |
| 92 | Athyrium | otophorum | | 20 | 4 | 24 | SKENT | | Easia | 97/7.11 |
| 93 | Athyrium | pvcnocarpon | | 20 | 4 | 48 | ANTVK | | N Am | 97/173 52.156 |
| 94 | Athyrium | rubripes | | 1 | 6 | | 3 | | Sibena | 94/45 93/9 |
| 95 | Athyrium | Thelypteroides | | 20 | 3 | 36 | TWZV | | NHemS&Easia | 97/108 96/181 |
| 96 | Athyrium ? | Unk. | Bradford Beauty | 2 | 5 | | 2K | | | 96/173 |
| 97 | Athyrium | vidalii | | 10 | 3 | 24 | TKE | | Ko.Jp.Tai | 96/173 94/45 |
| 98 | Athyrium | yokoscense | | 6 | 4 | 10 | K | | Kunles.Easia | 97/7 96/45 93/36 |
| 99 | Azolla \$\$\$ | Caroliniana | | 10 | 8 | 1 | EFWGH | | N Am | 95/2 |
| 100 | Azolla \$\$\$ | Filiculoides | | 10 | 6 | 1 | EFWGH | | Cosmo | 95/2 |
| 101 | Blechnum | Ambiquum | | 6 | 8 | | K | | Aus | 95/106 |
| 102 | Blechnum | Capense ? | | 5 | 7 | | | | NZ | 96/36 |
| 103 | Blechnum | chambersii | | 25 | 8 | 16 | WK | Aus | Aus.NZ.Poly | 97/106 |
| 104 | Blechnum | discolor | | 20 | 5 | 38 | WTKN | | NZ | 97/162 95/9 |
| 105 | Blechnum | fluviatile | | 40 | 8 | 24 | RSHWK | Aus | Aus. NZ | 97/162.106 |
| 106 | Blechnum | fraserei | | 9 | 8 | 24 | 2RSHW | | NZ | 97/162 |
| 107 | Blechnum | Lehmannii | | 10 | 8 | | | | | 96/162 |
| 108 | Blechnum | minus | | 20 | 6 | 40 | WOTK | | Aus. NZ | 97/57.106 95/9 |
| 109 | Blechnum | minus x wattsii | | 5 | 6 | 12 | WUK | | AusNZ | 97/57 |
| 110 | Blechnum \$ | nudum | | 20 | 8 | 40 | SZWNK | | Aus. Af | 94/106 |
| 111 | Blechnum | penna-marina | | 10 | 5 | 9 | GUOWR | | SHem | 97/193 95/160 |
| 112 | Blechnum | Procerum | | 10 | 8 | 30 | KS | | EindiesMexNZ | 97/162 95/9 |
| 113 | Blechnum | spicant | | 30 | 5 | 28 | ZESWY | | N. Hem.Pac nw | 97/199 96/36.34 |
| 114 | Blechnum | spicant | Crispum | 2 | 5 | 24 | ZESWY | | N. Hem | 97/36 95/36 |
| 115 | Blechnum | spicant | Redwood giant | 2 | 4 | 30 | NTYK | | N.Calif | 97/36 94/4 |
| 116 | Blechnum | Wattsii | | 5 | 6 | 12 | 2WUOS | | AusNZ | 97/57.106 |
| 117 | Botrychium | dissectum | dissectum | 6 | 3 | 8 | QLZTNK | | N Am | 97/189 93/9 |
| 118 | Botrychium | dissectum | obliquum | 6 | 4 | 8 | QLZTNK | | N Am | 97/189 93/120 |
| 119 | Botrychium | texnatum | | 4 | 8 | | QLZT | | Japa | 93/43 |
| 120 | Botrychium \$\$\$ | Virginianum | | 10 | 3 | 16 | QZVSKM | | NHem | 97/195 95/8 |
| 121 | Camptosorus | rhizophyllus | | 4 | 3 | 6 | NTAOK | | E NAM | 97/156 96/161 |
| 122 | Campyloneurum | anqustifolium | | 15 | 8 | 24 | HSNJ | | C&S Am | 96/164 95/165 |
| 123 | Cheilanthes | alabamensis | | 8 | 6 | 18 | DUAK | | S US.C Am.W indies | 92/104 |
| 124 | Cheilanthes | argentea | | 8 | 4 | 6 | DUZK | | Nasia.Siberia | 96/150 |
| 125 | Cheilanthes | Distans | | 15 | 7 | 7 | DTZK | | Aus.NZ | 96/1.18 92/104 |
| 126 | Cheilanthes | Eatonii | | 8 | 4 | 10 | DUAR | | SW US | 94/20.145.146 |
| 127 | Cheilanthes | Feei | | 4 | 5 | 8 | QRADU | Wisc. | NW N. Am | 97/198.1 |
| 128 | Cheilanthes | lanosa | | 6 | 5 | 12 | NSZKO | | Se N. Am | 96/173 95/8 |
| 129 | Cheilanthes | lasiophylla | | 16 | 8 | 15 | DUK | | Aus | 97/173 96/150 |
| 130 | Cheilanthes | lindigera | | 2 | 8 | 10 | 1DUKE | | S.Tex.Az Mex | 94/11 |
| 131 | Cheilanthes | Persica | | 3 | 8 | | 2DUR | | Turkey | 96/45 |
| 132 | Christella | subpubescens | | 3 | 8 | 24 | QSWK | | JpAusMalayPhilip | 93/43 |
| 133 | Colysis | Hemionitidea | | 3 | 8 | 12 | KHSJ | | EasiaSasia | 96/3 |
| 134 | Colysis | wrightii | | 1 | 8 | 12 | NR | | Easia | 94/27 |
| 135 | Coniogramme | intermedia | | 4 | 7 | 36 | GWTZO | | EasiaIndia | 95/106 |
| 136 | Coniogramme | japonica | | 2 | 7 | 48 | NSK | | E. asia | 95/157 93/9 |
| 137 | Cornoptens | crenulatoserrulata | | 5 | 6 | 36 | SNK | | Easia | 95/12 |
| 138 | Cryptogramma | acrostichoides | | 10 | 2 | 10 | ZURDAK | | W US | 94/1 92/97 |
| 139 | Cryptogramma | Crispa | | 25 | 6 | 8 | NUAK | | EurWasiaAf | 96/20.185 |
| 140 | Cryptogramma | Stelleri | | 1 | 3 | 6 | 2RDG | Wi | nNAM.Nasia | 97/198 |
| 141 | Ctenitis | Maximowicziana | | 8 | 8 | 24 | KO | | Jap | 95/88 |
| 142 | Culcita | Macrocarpa | | 4 | 8 | 58 | ZNSHOE | | SpainAzores | 97/187 95/9 |
| 143 | Currania | dryopteris | | 1 | 6 | 9 | 3GNSK | | NHem | 92/8 |
| 144 | Cyathea | australis | | 40 | 8 | 120 | BUZNK | | Aus.NZ | 97/193.57 |
| 145 | Cyathea | Brentwood | | 20 | 8 | 200 | B | | Aus | 96/87 |
| 146 | Cyathea | brownii | | 60 | 8 | 200 | 1BTNEK | | Norfolk is | 97/57 96/87.117 |
| 147 | Cyathea | cooperi | | 20 | 8 | 200 | BWTK | | AusNZ | 96/177 94/94 |
| 148 | Cyathea | cooperi | blue form | 15 | 8 | 200 | 1BWSK | | AusNZ | 96/87 |
| 149 | Cyathea | cooperi | Brentwood | 20 | 8 | 200 | 1BWS | | Aus | 96/177 92/87 |
| 150 | Cyathea | cooperi | Cinnamonia | 20 | 8 | 200 | 2BWTK | | SydneyAus | 97/196 |
| 151 | Cyathea | cooperi | Coastal form | 20 | 8 | 200 | BWTK | | AusNZ | 96/177 |
| 152 | Cyathea | smithii | | 20 | 8 | 200 | 1BTNK | | NZ | 97/162 95/9 |
| 153 | Cyathea | Tomentosum | | 10 | 8 | 72 | BN | | NGuinea | 94/94 |
| 154 | Cyathea | Woolisiana | | 8 | 8 | 120 | BUZNK | | Aus.NZ | 97/106 96/87 |
| 155 | Cyclosorus | Interruptus | | 6 | 8 | 48 | KWEU | | S&EasiaAus | 95/106 |
| 156 | Cyrtomium | caryotideum | | 4 | 6 | 24 | ZNTKEO | | India.Easia.Hawai | 96/173 94/156 |
| 157 | Cyrtomium | falcatum | | 50 | 6 | 24 | RTNEKO | | E&Sasia | 96/158 95/9.157 |
| 158 | Cyrtomium | falcatum | Crested | 7 | 6 | 24 | RTNEKO | | E&Sasia | 95/163 |
| 159 | Cyrtomium | falcatum | Rochfordianum | 5 | 6 | 20 | RSNEKO | | Jp.ChKor | 93/36 92/7.97 |
| 160 | Cyrtomium | fortunei | | 50 | 5 | 24 | ZNTKEO | | JpChKor | 97/182.156 |
| 161 | Cyrtomium | Lonchitiforme | | 8 | 6 | 12 | EK | | China | 97/11 95/150 |
| 162 | Cyrtomium | Unk | Litorale | 10 | 5 | | K | | | 96/173 |
| 163 | Cystopteris | alpina | Regia | 5 | 5 | 12 | SNA | | Eur | 95/150 93/12 |
| 164 | Cystopteris | dickieana | | 9 | 5 | 10 | NTAVR | | EurNAM | 94/12.45.97 |
| 165 | Cystopteris | fragilis | | 50 | 4 | 12 | ZNTVKE | | Cosmo | 97/1 96/164.24 |
| 166 | Cystopteris | fragilis | lanthnscifolia | 3 | 2 | 16 | 3 ZNTEK | | Cosmo | 94/45 |
| 167 | Cystopteris | fragilis | Fine Form | 2 | 2 | 12 | EZNTVK | | Cosmo | 94/24 |
| 168 | Cystopteris | protusa | | 1 | 5 | 16 | NTEGK | | E US | 96/174.156.8 |
| 169 | Cystopteris | sudetica | | 6 | 5 | 10 | GK | | Eur.Easia | 94/12.45 93/9 |
| 170 | Davallia | Griffithiana | | 2 | 8 | 20 | EG | | Easia | 97/191 95/160 |
| 171 | Davallia | Plumosa | | 5 | 8 | 18 | 2TN | | Samoa | 97/196 |
| 172 | Davallia | Plumosa | Samoa | 5 | 8 | 18 | 2TN | | Samoa | 97/196 |
| 173 | Davallia | species | | 2 | 8 | | | | taiwan | 94/12 |
| 174 | Dennstaedtia | punctiloba | | 10 | 3 | 18 | UNGVKE | | N.A. | 97/181.83 |
| 175 | Deparia | Acrostichoides | | 20 | 3 | 36 | TWZV | | NHemS&Easia | 97/198 |
| 176 | Deparia | japonica | | 2 | 8 | 10 | NEK | | IndiaNZJp | 95/27 93/26 |
| 177 | Deparia | peteronii | | 9 | 8 | 22 | Gs | | Georgia | 96/1 |
| 178 | Dicksonia \$\$\$ | antarctica | | 30 | 8 | 120 | BSUNK | | AusTasmania | 97/57.196 |
| 179 | Dicksonia \$\$\$ | fibrosa | | 10 | 7 | 120 | 1BEONU | | NZ | 95/9 94/25 |
| 180 | Dicksonia | lanata | | 3 | 8 | 90 | BZSWK | | NZ | 97/162 |

| HFF | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|---------------|------------------|-------------------------|----|---|------|--------|-----------|----------------------|------------------|
| 181 | Dicksonia | sellowiana | | 4 | 8 | 120 | 1BSWNE | | C&S Am. | 97/11 92/9,106 |
| 182 | Dicksonia | squarrosa | | 9 | 8 | 120 | 1BTNQK | | NZ | 97/162 57 |
| 183 | Dicksonia | youngiae | | 5 | 8 | 120 | BENT | | Aus | 92/9,87,106,114 |
| 184 | Diohysiastrum | Complanatum | 34 | 2 | 2 | 8 | | | N NAm | 94/9 |
| 185 | Diolazium | Acrostchioides | | 9 | 5 | | IK | | Ny | 96/173 |
| 186 | Diolazium | Assimile | | 11 | 8 | 60 | IKWS | | Aus | 95/106 |
| 187 | Diolazium | chinense | | 1 | 8 | 24 | 13 | | Easia | 93/43 |
| 188 | Diplazium | Metterianum | tenuifolium | 6 | 8 | 24 | IKV | | Jap | 95/88 |
| 189 | Diplazium | Plantaginifolium | | 20 | 8 | | | | Venez. | 96/11 |
| 190 | Diplazium | pycnocarpon | | 4 | 3 | 32 | WS | | E. N.A. | 94/8 93/9 |
| 191 | Diplazium | Tomataroanum | | 5 | 8 | 5 | 2RM | | ChJap | 97/191 |
| 192 | Doodia | Aspera | | 15 | 6 | 15 | UNG | | Aus NZ,Norfolk is | 95/9,157 94/94 |
| 193 | Doodia | media | | 20 | 7 | 10 | TWNZR | | AusNZ Norfolk Island | 95/9,170 |
| 194 | Doodia | media | australis | 1 | 8 | 10 | TWNZR | | NZ AusNew Caled | 94/1,135,10 |
| 195 | Doodia | media | Cairns | 20 | 7 | 10 | TWNZR | | AusNZ Norfolk Island | 94/94 93/1,109 |
| 196 | Dryopteris | abbreviata | | 8 | 5 | | | | Eur | 94/45 |
| 197 | Dryopteris | aemula | | 1 | 6 | 20 | SNKEHM | | W Eur | |
| 198 | Dryopteris | affinis | | 10 | 3 | 48 | SNTKE | | Eur SWAsia | 96/158 95/12,2 |
| 199 | Dryopteris | affinis | affinis | 12 | 3 | 48 | SNTKE | | Eur SWAsia | 96/45,153 95/9 |
| 200 | Dryopteris | affinis | affinis punctata | 10 | 3 | | SNTKE | | Eur SWAsia | |
| 201 | Dryopteris | affinis | azonicum | 2 | 3 | 48 | SNTKE | | Azores | 96/45 |
| 202 | Dryopteris | affinis | borreri | 20 | 3 | 48 | SNK | | Eur SWAsia | 96/45 95/135 |
| 203 | Dryopteris | affinis | borreri Pseudodisjuncta | 20 | 3 | | SNTKE | | Eur | 96/45 |
| 204 | Dryopteris | affinis | borreri robusta | 20 | 3 | 48 | SNK | | Eur SWAsia | 96/45 94/135 |
| 205 | Dryopteris | affinis | cambreensis | 20 | 3 | 36 | SNVTKE | | Eur SWAsia | 96/45,153,185 |
| 206 | Dryopteris | affinis | Coriacea | 4 | 3 | 24 | SNTK | | Iran | 96/45 |
| 207 | Dryopteris | affinis | Crispa | 1 | 3 | 48 | SNTKE | | Eur SWAsia | 97/173 |
| 208 | Dryopteris | affinis | Crispa stableri | 5 | 3 | 48 | SNTKE | | Eur SWAsia,Eng | 94/25 93/36 |
| 209 | Dryopteris | affinis | Cristata "The King" | 5 | 3 | 48 | SNTKE | | Eur SWAsia,Aus | 97/57 94/45,97 |
| 210 | Dryopteris | affinis | diploid indef? | 4 | 3 | 48 | SNTKE | | Eur SWAsia | 96/45 |
| 211 | Dryopteris | affinis | disjuncta | 6 | 3 | 48 | SNTKE | | Eur SWAsia | 96/45 92/9,26 |
| 212 | Dryopteris | affinis | Persica | 30 | 4 | 48 | SNTKE | | Eur SWAsia | 96/45 92/26 |
| 213 | Dryopteris | affinis | Pinderi | 4 | 3 | 48 | SNTK | | Eur SWAsia | 94/150 |
| 214 | Dryopteris | affinis | Polydactyla | 12 | 3 | 48 | SNTKE | | Eur SWAsia | 96/153 |
| 215 | Dryopteris | affinis | Polydactyla Dadds | 12 | 3 | 48 | SNTKE | | Eur SWAsia | 96/153 93/125 |
| 216 | Dryopteris | affinis | pseudodisjuncta | 5 | 3 | 48 | SNTKE | | Eur SWAsia | 92/9 |
| 217 | Dryopteris | affinis | punctata | 4 | 3 | 48 | SNTKE | | Eur SWAsia | 96/45 92/9,26 |
| 218 | Dryopteris | affinis | robusta | 8 | 3 | 48 | SNTKE | | Eur SWAsia | 93/100 92/9 |
| 219 | Dryopteris | affinis | stillupperis | 4 | 3 | 48 | SNTKE | | Eur SWAsia | |
| 220 | Dryopteris | affinis | The King | 6 | 3 | 48 | SNTKE | | Eur SWAsia | 94/141 |
| 221 | Dryopteris | amurensis | | 15 | 3 | 24 | 1SWKE | | Jp,Siberia | 94/12 |
| 222 | Dryopteris | ardechensis | | 14 | 8 | | 1SN | | France | 94/45,24 93/9 |
| 223 | Dryopteris | arguta | | 10 | 8 | 18 | DTKEO | | W. N.A. | 97/36 94/97 |
| 224 | Dryopteris | atrata | | 30 | 6 | 18 | INTK | | Easia | 96/185 95/2 |
| 225 | Dryopteris | austriaca | Recurvata | 4 | 3 | 48 | 2OSNK | | N. Hem | 96/173 |
| 226 | Dryopteris | Barnsii | | 4 | 5 | 24 | | | eUS | 95/156 |
| 227 | Dryopteris | bissetaria | | 5 | 3 | 24 | SZKEN | | Jo | 97/156 |
| 228 | Dryopteris | blanfordii | | 20 | 3 | 36 | K | | Him | 96/45 95/12 93/9 |
| 229 | Dryopteris | Borreri | pinderi | 2 | 4 | 48 | | | Eur,SWAsia | 94/9 |
| 230 | Dryopteris | cambreensis | | 7 | 6 | | | | Eng | 97/188 92/24,26 |
| 231 | Dryopteris | carthusiana | | 10 | 2 | 30 | TZWKE | | Europe, N Am | 97/173,83 96/45 |
| 232 | Dryopteris | caucasica | | 20 | 3 | 34 | | | Caucasian mt | 96/45 95/12 |
| 233 | Dryopteris | celsa | | 60 | 4 | 40 | 1ZTWOK | | E US | 97/197,181,156 |
| 234 | Dryopteris | chamoionii | | 25 | 3 | 24 | OKNT | | Easia | 96/173 94/10 |
| 235 | Dryopteris | clintoniana | | 5 | 3 | 40 | WSKE | | E NA | 95/141,5 92/26 |
| 236 | Dryopteris | clintoniana | hexaoloid | 1 | 3 | 40 | 2WSKE | | E NA | 96/173 |
| 237 | Dryopteris | contorta | notho complexa | 4 | 8 | | | | Eng | 93/24 |
| 238 | Dryopteris | corlewi | | 19 | 8 | | | | N. Spain | 96/185 94/104 |
| 239 | Dryopteris | crassirhizoma | | 10 | 3 | 36 | TVKE | | Ko,Ch,Jp | 96/173 94/45 |
| 240 | Dryopteris | crassirhizoma | nakai | 4 | 5 | 36 | TVK | | Japan | |
| 241 | Dryopteris | cristata | | 60 | 3 | 36 | ZWSKE | | N. HEM | 97/197,108 |
| 242 | Dryopteris | cycadina | | 40 | 5 | 30 | NUKE | | Easia | 97/7,197 |
| 243 | Dryopteris | cystolepidota | | 15 | 7 | 10 | NSK | | JapCh | 94/38 |
| 244 | Dryopteris | dickinsii | | 15 | 7 | 24 | | | Ch,Jp | 96/45 95/12 93/9 |
| 245 | Dryopteris | dickinsii | Incisa | 2 | 8 | 24 | | | ChJp | 94/45 |
| 246 | Dryopteris | dilatata | | 25 | 4 | 40 | WTOSK | | NHem,Greenlnd | 97/173 95/12,2 |
| 247 | Dryopteris | dilatata | Crispa Whiteside | 26 | 4 | 36 | WTOSK | | N Hem | 95/135,36 94/25 |
| 248 | Dryopteris | dilatata | Jimmy Dyce | 17 | 4 | 20 | WTOSK | | NHem. | 97/197 95/146 |
| 249 | Dryopteris | dilatata | Lepodota cristata | 15 | 4 | 18 | WTOSK | | N Hem | 94/25 92/97 |
| 250 | Dryopteris | dilatata | Recurvata | 6 | 4 | 36 | WTOSK | | N Hem | 97/182 |
| 251 | Dryopteris | erythrosora | | 35 | 5 | 28 | TNKO | | ChJoKr | 97/188,181,156 |
| 252 | Dryopteris | erythrosora | Prolifica | 8 | 5 | 16 | TNKO | | ChJoKr | 96/156,20 |
| 253 | Dryopteris | erythrosora | white son form | 5 | 5 | 16 | TNKO | | ChJoKr | 92/25 |
| 254 | Dryopteris | expansa | | 30 | 3 | 30 | RTNE | | NHem | 96/20,34 95/9 |
| 255 | Dryopteris | Expansa ? | small asian | 8 | 5 | | ik | | Asia | 95/12 |
| 256 | Dryopteris | filix-mas | | 9 | 3 | 60 | ZSNVE | | N Hem | 96/27 95/8,5 |
| 257 | Dryopteris | filix-mas | Barnsii | 20 | 3 | 36 | ZSNVE | | N Hem | 96/153,156 |
| 258 | Dryopteris | filix-mas | Cristata | 60 | 3 | 48 | ZSNVE | | N Hem | 93/120,131 |
| 259 | Dryopteris | filix-mas | CristataAnqustatum | 4 | 3 | 8 | 2ZSNVE | | N Hem | 97/173 |
| 260 | Dryopteris | filix-mas | CristataFilmy type | 20 | 3 | 60 | ZSNV | | N Hem | 93 |
| 261 | Dryopteris | filix-mas | CristataJackson | 3 | 3 | 48 | 3 | | N Hem | 94/45 |
| 262 | Dryopteris | filix-mas | CristataMartindale | 10 | 4 | 48 | ZSNOKE | | N Hem | 96/153 95/141 |
| 263 | Dryopteris | filix-mas | Grandiceps | 15 | 3 | 36 | ZSNVE | | N Hem | 96/153 94/9,25 |
| 264 | Dryopteris | filix-mas | Linearis | 17 | 4 | 36 | ZSNOKE | | N Hem | 95/141 94/12 |
| 265 | Dryopteris | filix-mas | LinearisPolydactyla | 30 | 3 | 48 | ZSNVE | | N Hem | 97/182 95/2,157 |
| 266 | Dryopteris | filix-mas | Lux-lunae polydactyla | 10 | 4 | 60 | ZSNOK | | N Hem | 95/159 |
| 267 | Dryopteris | filix-mas | Martindale | 7 | 4 | 48 | ZSNOKE | | N Hem | 94/141 |
| 268 | Dryopteris | filix-mas | polydactyla | 5 | 4 | 48 | ZSNOKE | | N Hem | 94/141 |
| 269 | Dryopteris | filix-mas | Polydactyla Dadd's | 7 | 4 | 48 | ZSNOKE | | N Hem | 95/135 |
| 270 | Dryopteris | filix-mas | small erect type | 14 | 3 | 48 | ZSNVE | | N Hem | 94/12 93/12 |

| HFF | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|-------------------|------------------------|------------------|----|---|------|--------|-----------|-----------------|------------------|
| 271 | Dryopteris | filix-mas | Straberi | 9 | 3 | 48 | ZSNVE | | N Hem | 96/158 95/2 |
| 272 | Dryopteris | filix-mas | sublinearis | 11 | 4 | 48 | ZSNOKE | | N.Hem | 94/141 |
| 273 | Dryopteris | filix-mas | undulata robusta | 25 | 3 | 60 | ZSNVE | | N Hem | 95/108 94/97 |
| 274 | Dryopteris | fructuosa | | 15 | 8 | 48 | INSK | | Tawindia | 93/43 92/26 43 |
| 275 | Dryopteris | goeringiana | | 8 | 3 | | | | | 96/21 94/9 97 |
| 276 | Dryopteris | goldiana | | 15 | 3 | 48 | TNVKE | | N Am | 97/173 83 108 1 |
| 277 | Dryopteris | goldiana hyb. ? | x D. clintonia ? | 7 | 3 | 48 | SN | | CT | 94/39 |
| 278 | Dryopteris | Goldiana x Clintoniana | | 15 | 3 | 48 | 2TNVKE | | N Am | 96/173 |
| 279 | Dryopteris | Gymnosora | | 5 | 8 | 12 | | | Japan | 97/36 |
| 280 | Dryopteris | hangchoensis | | 5 | 8 | | | | Japan | 92/43 |
| 281 | Dryopteris | hondoensis | | 10 | 3 | 24 | EKTN | | Jap | 97/197 92/9 |
| 282 | Dryopteris | indusiata ? | | 4 | 8 | 72 | | | JP Taw | 93/45 |
| 283 | Dryopteris | intermedia | | 10 | 3 | 34 | ZSNOEK | | E N America | 97/83 95/8 |
| 284 | Dryopteris | Khasiana | | 6 | 8 | | | | | 95/2 |
| 285 | Dryopteris | Kunthii | | 8 | 7 | | 2K | | | 97 |
| 286 | Dryopteris | lacera | | 50 | 5 | 24 | NTKE | | EasiaIndia | 97/7 96/157 173 |
| 287 | Dryopteris | Lepidoda | | 5 | 5 | 20 | ZNEK | | NindiaCh Eur | 97/36 94/45 |
| 288 | Dryopteris | Ludoviciana | | 15 | 6 | 46 | ASEWK | | SE US | 97/181 96/156 |
| 289 | Dryopteris | Ludoviciana | x Hybrid | 5 | 6 | 46 | ASEWK | | SE US | 97/156 95/9 94/2 |
| 290 | Dryopteris | marginalis | | 50 | 2 | 25 | ESNOK | | NE N. Am | 97/182 83 198 1 |
| 291 | Dryopteris | monticola | | 5 | 7 | | | | | 96/45 |
| 292 | Dryopteris | Namekatae | | 1 | 7 | | 3 | | Jap | 94/45 |
| 293 | Dryopteris | nigropaleacea | | 2 | 7 | | | | Him.Nindia | 93/9 |
| 294 | Dryopteris | oreades | | 20 | 4 | 20 | NSVKE | | Eur | 95/12 94/45 104 |
| 295 | Dryopteris | pallida | | 5 | 8 | | | | SEur | 93/12 |
| 296 | Dryopteris | pallida | pallida | 25 | 8 | | | | SEur | 95/135 92/26 |
| 297 | Dryopteris | pallida | raddeana | 8 | 8 | | | | Russia | 94/45 |
| 298 | Dryopteris | polylepis | | 9 | 6 | 24 | EKNT | | Jap | 97/36 96/18 |
| 299 | Dryopteris | pseudo-mas | | 6 | 4 | 24 | NSOK | | Eur | 95/2 94/148 |
| 300 | Dryopteris | pseudo-mas | Cristata | 1 | 4 | 24 | NSOK | | Eur | 93/38 |
| 301 | Dryopteris | purpurella | | 4 | 5 | 36 | INSKE | | Japan | 96/173 94/97 |
| 302 | Dryopteris | pycnopteroides | | 10 | 6 | 24 | KENTO | | SikkimJap | 97/36 156 96/45 |
| 303 | Dryopteris | Ramosa x Stewartii | | 4 | 6 | | | | Pakisatn | 97/7 96/45 |
| 304 | Dryopteris | Remota | | 25 | 4 | 36 | 1KNTE | | Eur | 97/181 156 |
| 305 | Dryopteris | Sarcastora | | 5 | 7 | 18 | 20 | | Ala? | 97/156 |
| 306 | Dryopteris | sichotensis | | 15 | 5 | 48 | EKN | | Easia | 96/146 |
| 307 | Dryopteris | sieboldii | | 8 | 6 | 24 | ZSENKO | | Easia | 97/156 |
| 308 | Dryopteris | sieboldii | Cyenata | 5 | 6 | 20 | ZSNKE | | Easia | 92/111 |
| 309 | Dryopteris | sieboldii | Incisum | 6 | 6 | 24 | ZSNKO | | Easia | 96/10 |
| 310 | Dryopteris | Sordipes | | 5 | 7 | | 2 | | | 97/191 |
| 311 | Dryopteris | sp. | Japan | 4 | 8 | | | | Japan | 93/7 |
| 312 | Dryopteris | spinulosa | | 15 | 3 | 24 | ZN | | N.A.Jp | 97/182 108 |
| 313 | Dryopteris | spinulosa | plumosum | 15 | 3 | 24 | ZN | | N.A.Jp | 97/182 |
| 314 | Dryopteris | stewartii | | 40 | 7 | 48 | K | | | 96/45 153 95/12 |
| 315 | Dryopteris | sublacera | | 20 | 7 | 20 | | | | 95/36 94/24 25 |
| 316 | Dryopteris | submontana | | 15 | 6 | 20 | EANK | | Eur. N. Af | 96/45 94/104 |
| 317 | Dryopteris | uniformis | | 20 | 5 | 30 | ZNKOE | | Easia | 97/191 96/157 |
| 318 | Dryopteris | vana | setosa | 10 | 6 | 24 | ZSNK | | Sasia Philipin | 97/7 92/111 |
| 319 | Dryopteris | villarii | | 20 | 5 | | | | Eur | 96/45 185 95/12 |
| 320 | Dryopteris | Villari | Submontana | 4 | 5 | | | | Eur | 95/61 |
| 321 | Dryopteris | wallichiana | | 12 | 5 | 40 | SNKB | | Pantropic | 97/173 96/158 |
| 322 | Dryopteris | X complexa | complexa | 4 | 4 | 36 | ETNK | | Europe | 97/156 96/45 |
| 323 | Dryopteris | X complexa | concorda | 12 | 3 | 36 | 2ETVNK | | Europe | 97/7 94/45 |
| 324 | Dryopteris | X complexa | critica | 12 | 3 | 36 | ETVNK | | Europe | 94/45 |
| 325 | Dryopteris | x tavelii | | 43 | 5 | | S | | Eur | 95/12 92/9 |
| 326 | Equisetum \$ | palustre | | 7 | 2 | 18 | 1WU | | cosmo | 95/9 |
| 327 | Equisetum \$ | Ramosissimum | | 10 | 7 | 60 | 1WUK | | Eur. SE US | 95/9 |
| 328 | Equisetum \$\$\$ | Scirpoides | | 10 | 3 | 10 | KWOG | | NHem | 95/153 |
| 329 | Equisetum \$\$\$ | Sp. | Micro??? | 10 | 4 | 10 | FWOG | | Mich??? | 95/153 |
| 330 | Equisetum \$ | telmateia | | 10 | 7 | 70 | QGWUV | | NHem | 95/9 162 |
| 331 | Grammitis \$\$\$ | billardieri | | 10 | 7 | 5 | WTYJ | | Pantrop | 95/53 |
| 332 | Gymnocarpium | dryopteris | | 70 | 2 | 12 | ERSGV | | NHem | 97/1 96/164 |
| 333 | Gymnocarpium | dryopteris | Plumosum | 10 | 2 | 12 | RSGV | | NHem | 95/108 1 12 |
| 334 | Gymnocarpium | ovamense | | 4 | 8 | 12 | GENTK | | EAsia | |
| 335 | Gymnocarpium | robertianum | | 40 | 2 | 16 | 1ASEGN | | NHem | 97/173 95/9 |
| 336 | Gymnocarpium | x intermedium | | 3 | 7 | 12 | 2ERSGV | | N.NAm | 97/7 |
| 337 | Hemionitis | Arifolia | | 2 | 8 | 6 | KUA | | S&SEasiaEindies | 97/173 96/156 |
| 338 | Hypolepis | Distans | | 5 | 8 | | 2G | | AusNZ | 97/57 |
| 339 | Hypolepis | muelleri | | 4 | 8 | 80 | GWUK | | AusTasm | 93/53 |
| 340 | Hypolepis | punctata | | 3 | 8 | 48 | GUNEK | | Asia Aus.NZCh | |
| 341 | Hypolepis | Repens | | 9 | 7 | 80 | GS | | FlaC&SamWindie | 96/156 |
| 342 | Isoetes \$\$\$ | Melanopoda | | 10 | 7 | 8 | 1UQFW | | SCen Nam. | 96/184 |
| 343 | Lastreopsis | lacuminata | | 8 | 8 | 30 | ENSJ | Aus | NZ AusTasm | 97/106 95/53 |
| 344 | Lunathyrium | japonicum | | 5 | 6 | 22 | EANTK | | S&SE&E asia | 94/45 93/36 |
| 345 | Lunathyrium | Unifurcatum | | 12 | 8 | 24 | KO | | Jap | 95/88 |
| 346 | Lycopodium | Annotinum | | 5 | 3 | 3 | QLTZNO | | NHem | 95/9 |
| 347 | Lycopodium \$\$\$ | Obscurum | | 10 | 3 | 10 | QZSWH | | neNAm | 95/153 |
| 348 | Lycopodium \$\$\$ | Selago | | 10 | 3 | 6 | QZUWH | | EindiesNAmNZEur | 95/153 |
| 349 | Lycopodium | japonicum | | 20 | 7 | 72 | CNUK | | S&SEasia Aus | 96/180 |
| 350 | Marsilea \$\$\$ | Quadrifolia | | 10 | 4 | 4 | FEGU | | NHem | 95/153 |
| 351 | Matteuccia | orientalis | | 6 | 5 | 30 | EZN | | far east | 97/192 |
| 352 | Matteuccia \$ | struthiopteris | | 60 | 2 | 60 | ZWSEVK | | N. Hem | 96/175 |
| 353 | Matteuccia \$ | struthiopteris | asian form | 3 | 3 | 60 | ZWSEVK | | Asia | |
| 354 | Matteuccia \$\$\$ | struthiopteris | Pennsylvanica | 10 | 2 | 60 | ZWSEO | | E US | 95/8 94/120 |
| 355 | Nephrolepis | cordifolia | | 8 | 8 | 24 | URJDE | | Pantropic | 95/9 151 |
| 356 | Nephrolepis | cordifolia x Hyb | Paul Cambell | 5 | 8 | 24 | URJDE | | Pantropic | 95/157 |
| 357 | Nephrolepis | Obliterata | Kimberly Queens | 10 | 7 | 36 | | | Aus | 94/94 |
| 358 | Notholaena | sinuata | sinuata | 12 | 7 | 24 | QUDA | | SwUs C&S am | 92/104 |
| 359 | Oleandra | species | | 10 | 8 | | | | China | 95/11 |
| 360 | Oleandra | species | | 10 | 8 | | | | KwangtungChina | 95/63 |

| HF# | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|----------------|-------------------------|----------------------|----|---|------|--------|-----------|-------------------|-----------------|
| 361 | Onoclea \$\$\$ | sensibilis | | 60 | 2 | 24 | WUGZE | | NHemAsia | 96/161,175,95/9 |
| 362 | Oreopteris | limbosperma | | 8 | 4 | 40 | ZSNK | | Eur N.A. | 96/185 94/45 |
| 363 | Osmunda \$\$\$ | cinnamomea | | 10 | 3 | 60 | WZVEK | | NAmEasia | 97/144,176 |
| 364 | Osmunda \$\$\$ | claytoniana | | 5 | 2 | 60 | ZWSVKE | | NAm | 97/176 |
| 365 | Osmunda \$\$\$ | japonica | | 20 | 3 | 32 | EYZWS | | E&SAsia,Philipp | 97/176 95/110 |
| 366 | Osmunda \$\$\$ | regalis | | 20 | 3 | 90 | ZWSOK | | Cosmo | 96/175 |
| 367 | Osmunda \$\$\$ | regalis | Brasiliense | 10 | 3 | 72 | 2ZWSVK | | SAM | 97/194 |
| 368 | Osmunda \$\$\$ | regalis | Crispa | 10 | 3 | 72 | ZWSVK | | Cosmo | 95/25 94/25 |
| 369 | Osmunda \$\$\$ | regalis | Cnstatata | 10 | 3 | 72 | ZWSVK | | Cosmo | 94/25 92/20,113 |
| 370 | Osmunda \$\$\$ | regalis | gracilis | 1 | 4 | 48 | ZWSVK | | N Hem | 94/5 |
| 371 | Osmunda \$\$\$ | regalis | Japonica(Dimorphic) | 1 | 4 | 48 | ZWSVK | | Easia | 94/5 |
| 372 | Osmunda \$\$\$ | regalis | purpurescens | 10 | 3 | 72 | ZWSVK | | NAm | 96/176 |
| 373 | Osmunda \$\$\$ | Regalis | regalis | 10 | 3 | 90 | ZWSVK | | Cosmo | 94/25 |
| 374 | Osmunda \$\$\$ | regalis | regalis Purpurascens | 10 | 3 | 90 | ZWSVK | | Cosmo | 95/110 94/25 |
| 375 | Osmunda \$\$\$ | regalis | spectabilis | 10 | 3 | 90 | ZWSVK | | Cosmo | 95/25 93/9,150 |
| 376 | Osmunda \$\$\$ | regalis | Undulatum | 1 | 4 | 48 | ZWSVK | | N Hem | 94/5 |
| 377 | Paesia | scaberula | | 8 | 8 | 30 | GTEZVN | | NZ | 97/162 |
| 378 | Pecuma | alfredii | | 6 | 8 | | | | | 96/11 |
| 379 | Pellaea | andromedifolia | | 15 | 8 | 20 | ZUDK | | Calif | 96/110 |
| 380 | Pellaea | atropurpurea | | 5 | 3 | 16 | UADEK | | C&N.A. | 96/1.8,173 |
| 381 | Pellaea | calomelanos | | 8 | 8 | 10 | UDAK | | AfrEur | 94/104 |
| 382 | Pellaea | intramarginalis | | 10 | 8 | 30 | | | MexCAm | 95/106,165 |
| 383 | Pellaea | nitidula | | 10 | 8 | 10 | | | ChHawaii | 94/104 |
| 384 | Pellaea | rotundifolia | | 13 | 7 | 6 | DTZK | | NZ | 96/1.45,158 |
| 385 | Pentagramma | triangularis | | 10 | 6 | 10 | UDRK | | W.N.Am | 95/146,170 |
| 386 | Phanerophlebia | falcata | | 1 | 7 | | | | Easia | |
| 387 | Phanerophlebia | fortunei | | 3 | 7 | | | | Easia | |
| 388 | Phegopteris | connectilis | | 40 | 5 | 16 | SNGVK | | N Hem | 97/7,198 |
| 389 | Phegopteris | decursive-pinnata | | 6 | 4 | 24 | 2ENT | | EurS&Easia | 96/181,153 |
| 390 | Phyllitis | hemionitis | | 1 | 8 | 10 | | | SEur,Canryis | 92/45 |
| 391 | Phyllitis | hybrida | | 8 | 5 | | | | Eur | 96/185 |
| 392 | Phyllitis | scolopendrium | | 10 | 4 | 24 | ARNSKO | | N Hem | 97/7 |
| 393 | Phyllitis | scolopendrium | Angustifolia | 6 | 4 | 24 | ARNSKO | | N Hem | 95/2,150 94/9 |
| 394 | Phyllitis | scolopendrium | Digitatum | 1 | 4 | 24 | ARNSKO | | N Hem | 95/2 |
| 395 | Phyllitis | scolopendrium | marginata | 1 | 4 | 24 | ARNSOK | | N Hem | 94/9 |
| 396 | Phyllitis | scolopendrium | Muricatum | 1 | 4 | 24 | ARNSKO | | N Hem | 95/2 |
| 397 | Phyllitis | scolopendrium | Rhodesian crested | 3 | 4 | 24 | ARNSKO | | N Hem | 95/157 |
| 398 | Phyllitis | scolopendrium | scolopendrium | 8 | 4 | 24 | ARNSKO | | N Hem | 95/9 94/154 |
| 399 | Phyllitis | scolopendrium | Supramarginata | 8 | 4 | 20 | ARENKO | | N Hem | 94/9 |
| 400 | Phymatodes | diversifolium | | 15 | 8 | 20 | JGH | | SAMAusNZ | 97/99 95/9 |
| 401 | Plagiozoma | japonica | | 2 | 8 | 8 | 2 | | Jap | 96/157 |
| 402 | Platyterium | bifurcatum | | 15 | 8 | 24 | JHTE | | AusEIndiesIndia | 95/9 |
| 403 | Platyterium | bifurcatum x willinckii | | 15 | 8 | 24 | 1JHTE | | QueenAus | 97/196 |
| 404 | Polypodium | amorphum | | 20 | 6 | 12 | 1R | | Pacific NW | 94/97 |
| 405 | Polypodium | Appalachianum | diploid | 10 | 5 | | 2K | Ohio | Ne US | 97/83 |
| 406 | Polypodium | Australe | Cristatum old form | 4 | 6 | 18 | | | Eur | 92/41 |
| 407 | Polypodium | australe | Dentatum | 5 | 6 | 18 | JNT | | Eur | 92/41 |
| 408 | Polypodium | australe | Grandiceps Forster | 1 | 6 | 18 | 3JNT | | Eur | 92/41 |
| 409 | Polypodium | australe | omniclaerum oxford | 2 | 6 | 18 | JNT | | England | 92/41 |
| 410 | Polypodium | australe | SemilacerumFalcatum | 6 | 6 | 18 | JNT | | Eur | 92/41 |
| 411 | Polypodium | australeSemilacerum | falcatum O'Kelly | 8 | 6 | 18 | JNT | | England | 92/41 |
| 412 | Polypodium | australeSemilacerum | robustum | 5 | 6 | 18 | JNT | | England | 92/41 |
| 413 | Polypodium | californicum | | 1 | 8 | 24 | 3RNT | | California | 94/1 |
| 414 | Polypodium | cambricum | cambricum | 6 | 6 | 10 | TNK | | swCalif,Eur | 95/9 |
| 415 | Polypodium | cambricum | serrulatum | 1 | 3 | 8 | TN | | sw Calif,Eur | 95/9 94/154 |
| 416 | Polypodium | formosanum | | 10 | 8 | 12 | HSJNT | | TawCh Japan, | 97/106,196 96/1 |
| 417 | Polypodium | glycyrrhiza | | 8 | 5 | 20 | JSRHN | | NW N.Am | 97/7 96/10,1 |
| 418 | Polypodium | interjectum | | 22 | 6 | 20 | UWRAK | | Eur | 95/9 94/135,154 |
| 419 | Polypodium | interjectum | Glomertum Mullins | 2 | 6 | 20 | UWRAK | | Eur | 92/41 |
| 420 | Polypodium | scouleri | | 10 | 7 | 14 | TNJR | | W.NAm | 97/7 96/1 |
| 421 | Polypodium | vulgare | | 10 | 5 | 12 | NTJK | | N Hem | 95/9,166 93/38 |
| 422 | Polypodium | vulgare | Bifido-cristatum | 3 | 4 | 12 | NTJK | | Cosmo | 97/7 94/45 |
| 423 | Polypodium | vulgare | Cornubiense | 2 | 5 | 14 | NTJK | | N Hem | 97/7 |
| 424 | Polypodium | vulgare | prionodes | 1 | 4 | 14 | NTJK | | Cosmo | 94/9 |
| 425 | Polystichopsis | mutica | | 3 | 8 | | | | Jap | 94/45 |
| 426 | Polystichum | acrostichoides | | 40 | 3 | 28 | SNOK | | N.Am | 97/83,108 |
| 427 | Polystichum | Acrostichoides | Forked pinnae | 10 | 3 | 28 | SNOK | | N.Am | 97/108 |
| 428 | Polystichum | aculeatum | | 30 | 4 | 30 | EASRGN | | Eur, N India | 97/188,36 |
| 429 | Polystichum | aculeatum | Acutolobum | 10 | 4 | 30 | 1EASRG | | Eur, N India | 95/150 |
| 430 | Polystichum | aculeatum | Nrw,split form | 2 | 4 | 24 | ASRNGE | | Eur, N India | |
| 431 | Polystichum | andersonii | | 40 | 6 | 36 | 1WSRK | | NW N.Am | 97/173 96/10 |
| 432 | Polystichum | australense | | 10 | 8 | | | | Aus | 95/106 |
| 433 | Polystichum | braunii | | 60 | 3 | 28 | SNOKE | | N Hem | 97/188,173,108 |
| 434 | Polystichum | californicum | | 12 | 7 | 30 | RNT | | California | 97/170,4 94/1 |
| 435 | Polystichum | falcinellum | | 20 | 7 | 24 | | | S.EurMadg,Madiera | 96/45 93/12 |
| 436 | Polystichum | limbicans | | 30 | 3 | 24 | SNK | | W NAm | 94/97 93/7 |
| 437 | Polystichum | lemmonii | | 6 | 6 | 12 | TNLK | | W NAm | 93/28,132 |
| 438 | Polystichum | lobatum | | 3 | 6 | 12 | | | Ch | 93/9 93/12 |
| 439 | Polystichum | lonchitis | | 30 | 3 | 18 | ASWOK | | N Hem | 96/45 95/8 |
| 440 | Polystichum | makinoi | | 20 | 5 | 24 | EKNOT | | CH, Jap | 97/7 96/45,173 |
| 441 | Polystichum | mayerbarae | | 3 | 6 | 18 | TNK | | ChJap | 96/150 94/36 |
| 442 | Polystichum | mohrnodes | | 30 | 5 | 14 | R | | SAM,W NAm | 93/12 92/12 |
| 443 | Polystichum | munitum | | 60 | 5 | 58 | SNOK | Ont. | W N.Am | 97/199,1 94/12 |
| 444 | Polystichum | munitum | Crispate | 10 | 5 | 58 | SNOK | | W N.Am | |
| 445 | Polystichum | munitum | Twisted Pinna | 4 | 5 | 36 | SNKO | | W N.Am | 94/25 |
| 446 | Polystichum | neolobatum | | 28 | 5 | 24 | ENOKS | | JpChNep Him | 97/188,7 |
| 447 | Polystichum | polyblepharum | | 25 | 5 | 24 | SZEK | | JpChKor | 97/7,156 96/158 |
| 448 | Polystichum | proliferum | | 8 | 5 | 36 | NTEK | | AusNZ | 97/188 94/97 |
| 449 | Polystichum | retroso-paleaceum | | 10 | 5 | 36 | SNEKO | | JpChKor | 97/36 94/45,38 |
| 450 | Polystichum | Richardii | | 2 | 6 | 24 | KN | | NZ | 95/9 |

| HFF | GENUS | SPECIES | CVR | PK | Z | SIZE | GRO | COLL.SITE | ORIG | DONOR |
|-----|--------------------|-------------------|------------------------|----|---|------|---------|-----------|------------------|------------------|
| 451 | Polystichum | ingens | | 1 | 3 | 24 | KNT | | JpChKor | 93/9.26 |
| 452 | Polystichum | setiferum | | 99 | 5 | 40 | TNKE | | Europe | 97/7.197.181 |
| 453 | Polystichum | Setiferum | Acutilobum | 5 | 5 | 40 | TNK | | Europe | 92/45 |
| 454 | Polystichum | setiferum | Congestum | 15 | 5 | 40 | TNK | | Europe | 96/158 95/2 |
| 455 | Polystichum | setiferum | Conspiculobum | 3 | 6 | 40 | TN | | Europe | 94/45 |
| 456 | Polystichum | setiferum | Conspicupinnulum | 4 | 6 | 40 | TN | | Europe | 94/45 |
| 457 | Polystichum | setiferum | dahlem | 8 | 5 | 40 | TN | | Eur | 96/158 |
| 458 | Polystichum | setiferum | divisilobum angustatum | 3 | 6 | 40 | TN | | Europe | 94/45 |
| 459 | Polystichum | setiferum | divisilobum cnstatum | 2 | 6 | 40 | TN | | Europe | 94/97 |
| 460 | Polystichum | setiferum | Herrenhausen | 6 | 5 | 40 | TNK | | Europe | 95/2 |
| 461 | Polystichum | setiferum | Mrs Hughes | 3 | 6 | 40 | TN | | Europe | 94/45 |
| 462 | Polystichum | setiferum | Perserratum | 2 | 5 | 40 | TNK | | Europe | 92/101 |
| 463 | Polystichum | setiferum | proliferum | 5 | 5 | 40 | TN | | Eur | 95/2 94/9 |
| 464 | Polystichum | setiferum | proliferumWollastonii | 6 | 6 | 40 | NT | | Eur | 97/173 |
| 465 | Polystichum | setiferum | Rotundatum | 5 | 6 | 40 | TN | | Europe | 95/141 94/45 |
| 466 | Polystichum | setiferum | RotundCnstatum | 8 | 5 | 40 | TNK | | Europe | 96/10 94/20 |
| 467 | Polystichum | setigerum | | 20 | 2 | 48 | 1SNK | | NW NAm | 94/12 92/7.9.26 |
| 468 | Polystichum | silvaticum | | 8 | 8 | 18 | | | TasmaniaNZ | |
| 469 | Polystichum | squarrosum | | 10 | 7 | 18 | NTK | | EurIndiaHimalaya | 94/36 93/97 |
| 470 | Polystichum | Transkeiense | | 1 | 7 | | ZNKSGE | | STropics | 96/164 |
| 471 | Polystichum | tripteron | | 25 | 5 | 24 | NTE | | Easia | 96/45.173 95/12 |
| 472 | Polystichum | tsus-simense | | 15 | 6 | 18 | ZSNKE | | Ch Jp Kor | 97/7.197.156 |
| 473 | Polystichum | woronowii | | 4 | 7 | | | | SWAsia | |
| 474 | Polystichum | x bicknellii | | 4 | 6 | | 12 | | Eur | 96/45 |
| 475 | Polystichum | x illyricum | | 40 | 5 | | | | SEur | 96/45 94/97 93/9 |
| 476 | Polystichum | x wirtgenii | | 4 | 6 | | 12 | | Eur | 96/45 |
| 477 | Polystichum | Xiphophyllum | | 9 | 7 | 20 | | | Chin. Taiwan | 96/21 |
| 478 | Pteridium | laquilinum | laquilinum | 20 | 3 | 120 | GUDOKE | Eng | Euope | 97/91 |
| 479 | Pteris | cretica | | 30 | 8 | 24 | THNEK | | Comso | 96/156 95/9 |
| 480 | Pteris | cretica | Albo lineata | 25 | 8 | 24 | THNEK | | Comso | 97/173 96/158 |
| 481 | Pteris | cretica | AlboLineataAlexandrae | 10 | 8 | 24 | THNEK | | Comso | 95/160 |
| 482 | Pteris | cretica | cretica | 1 | 8 | 24 | THNEK | | Comso | 95/9 |
| 483 | Pteris | cretica | Major | 4 | 8 | 24 | THNEK | | E Hem | 95/157 |
| 484 | Pteris | cretica | Mayii | 3 | 8 | 24 | THNEK | | E Hem | 95/157 |
| 485 | Pteris | cretica | Parkeri | 4 | 8 | 24 | THNEK | | Comso | 97/11 |
| 486 | Pteris | cretica | Rivertoniana | 10 | 8 | 24 | THNEK | | Comso | 95/11.94/110 |
| 487 | Pteris | cretica | Rowerii | 2 | 8 | 24 | THNEK | | E Hem | 95/2 |
| 488 | Pteris | cretica | wilsonii | 1 | 8 | 24 | THNEK | | Comso | 95/9 |
| 489 | Pteris | cretica | Wimsettii | 9 | 8 | 24 | THNEK | | Comso | 95/9.2.157 |
| 490 | Pteris | incompleta | | 2 | 8 | | | | SWEurNafr | 95/9 94/24 |
| 491 | Pteris | macilentata | | 15 | 8 | 30 | WSNEK | | NZ | 97/191 95/53.37 |
| 492 | Pteris | multifida | | 3 | 6 | 20 | NTREA | | JapChPhilip | 96/156 95/9 |
| 493 | Pteris | semipinnata | | 2 | 8 | 30 | KTN | | E asia | 95/110 |
| 494 | Pteris | tremula | | 26 | 8 | 60 | ETHNK | | AusNZ FIJI | 97/57 |
| 495 | Pteris | vittata | | 30 | 8 | 36 | UANEK | | E Hem | 95/160.9 94/110 |
| 496 | Pyrrosia | polydactyla | | 10 | 8 | 17 | UNE | | Taiwan | 96/1 95/63 |
| 497 | Rumohra | adiantiformis | | 10 | 8 | 48 | SNJ | | SHem | 95/108.157 |
| 498 | Salvinia \$\$\$ | Natans | | 10 | 8 | 1 | EFWHG | | Eurasia | 95/2 |
| 499 | Selaginella \$\$\$ | Uncinata | | 10 | 6 | 2 | GOSZ | | China | 95/153 |
| 500 | Thelypteris | Acuminatus | | 5 | 8 | | | | Jap. | 94/82 |
| 501 | Thelypteris | decursive-pinnata | | 6 | 4 | 24 | ENT | | EurS&Easia | 97/156 |
| 502 | Thelypteris | Dentata | | 1 | 6 | 30 | 1AHTKN | | Pantrop | 95/156 94/156 |
| 503 | Thelypteris | hexagonoptera | | 20 | 4 | 20 | ISZNEOK | | E NAm | 97/173 96/181 |
| 504 | Thelypteris | japonica | | 2 | 8 | 14 | NTK | | Easia | |
| 505 | Thelypteris | kunthii | | 10 | 7 | 36 | GNRET | | SE US | 97/181 95/27.9 |
| 506 | Thelypteris | inoveboracensis | | 28 | 4 | 18 | ZTNEGO | | NAm | 95/156.108 |
| 507 | Thelypteris | palustris | | 18 | 2 | 30 | WZSKG | | Eur.N Am | 96/185 |
| 508 | Thelypteris | palustris | palustris | 15 | 4 | 18 | WZGSK | | Eur.N Am | 92/24 |
| 509 | Thelypteris | palustris | pubescens | 6 | 4 | 30 | WZGSK | | Eur.N Am | 92/9 |
| 510 | Thelypteris | phegopteris | | 25 | 2 | 24 | SNZOK | | Eur.N Am | 97/108 96/129.8 |
| 511 | Thelypteris | simulata | | 2 | 4 | 24 | WZT | | NE NAm | 95/141 93/9 |
| 512 | Thelypteris | torresiana | | 20 | 8 | 40 | AWETK | | Cosmo | 97/181 95/156 |
| 513 | Tmesiptens \$\$\$ | Ovata | | 10 | 8 | 16 | GQLK | | Aus | 95/53 |
| 514 | Todea \$\$\$ | barbara | | 10 | 8 | 48 | QUNK | | AusNZ.S Af | 95/53 |
| 515 | Trichomanes \$\$\$ | Sp | NZ | 10 | 5 | 12 | 2KWHG | | NZ | 97/12 |
| 516 | Unk. | Mutant 1 | | 2 | 4 | 18 | K | | NY | 97/157 |
| 517 | Unk. | Mutant 2 | | 2 | 4 | 18 | K | | NY | 97/157 |
| 518 | Unkown | | Montrose Bot Gard | 10 | 5 | 16 | KNT | | Montrose | 96/18 |
| 519 | Woodsia | fragilis | | 30 | 5 | 14 | TK | | Wasia | 97/7 96/45 |
| 520 | Woodsia | intermedia | | 8 | 5 | 6 | | | EAsia | 96/45 94/9 |
| 521 | Woodsia | obtusa | | 10 | 3 | 14 | RTNEA | | NAm | 97/52 96/174 |
| 522 | Woodsia | polystichoides | Wooly type | 8 | 4 | 10 | 2RUZEN | | EAsia | 97/7 96/45.173 |
| 523 | Woodwardia | fimbriata | | 3 | 7 | 80 | TWUEK | | CalifMex | 93/7.25.97 92/4 |
| 524 | Woodwardia | radicans | | 10 | 7 | 60 | NUEK | | Eurasia | 94/9.135 93/114 |
| 525 | Woodwardia | Unigeminata | | 3 | 8 | 40 | 2EZKG | | Easia | 97/4 |
| 526 | Woodwardia | virginica | | 20 | 3 | 24 | WZUGO | | E NAm | 96/180.181.153 |



Board of Directors:

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President Elect: John Putnam

Recording Secretary: Ruth Hofmann

Corresponding Secretary: Sylvia Duryee

Treasurer: Jack Docter

Past President: Sylvia Duryee

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- ☐ Active \$20.00
- ☐ Family \$25.00
- ☐ Contributing \$100.00
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- ☐ Patron \$1000.00

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AMOUNT ENCLOSED _____

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